

REFERENCE MANUAL



for
Architects
and
Engineers

BUILT-UP ROOFING

FLASHING

ROOF DRAINAGE

WATERPROOFING

DAMPPROOFING

INDEX

SECTION 1—BUILT-UP ROOFING

Flat Roof Specifications		9
Wood Decks	20 Year—Type "AA"	10
" "	15 " " "A"	10
Poured Concrete or Gypsum	20 " " "AA"	11
" " " "	15 " " "A"	11
Precast Concrete Slabs	20 " " "AA"	12
" " " "	15 " " "A"	12
Precast Gypsum Slabs	20 " " "AA"	13
" " " "	15 " " "A"	13
Insulated Steel Decks	20 " " "AA"	14
" " " "	15 " " "A"	14
Concrete, under Promenade Tile, 5-ply		15
Utility or Spray Pond Service		16
Under Bituminous Traffic Top		17
Rigid Insulation Application and Waterproofing		18

SECTION 2—BUILT-UP ROOFING

Steep Roof Specifications		19
Wood Decks	20 Year—Slag Surfaced	20
" "	10 " —S. I. S.	21
Poured Concrete or Gypsum	20 " —Slag Surfaced	22
" " " "	10 " —S. I. S.	23
Precast Gypsum or Concrete		
Slabs	20 " —Slag Surfaced	24
Precast Gypsum or Concrete		
Slabs	10 " —S. I. S.	25
Incline Table		26

SECTION 3—FLASHINGS

Roof and Spandrel Flashing Specifications		27
Method of Installing Barrett Flashing Block (For Brick Walls)		28
" " " " Flashing Form (For Concrete Walls)		29
Type "AA" 20 Year; Type "A" 15 Year (For Brick Walls)		30
Type "AA" 20 Year; Type "A" 15 Year (For Concrete Masonry)		31
Alternate Type "AA" Flashing Using Bituminous Base and Metal Counter Flashings		32
Plastic Elastigum Type, 10 Year Guaranty (Brick or Concrete)		33
Method of Installing Metal Cap and Base Flashing		34
" " " " Flashing for Promenade Tile Roofs		35
Parapet Walls and Spandrel Beams		36
Flat and Steep Roof Construction—Method of Finishing Eaves and Edges		37
Sign Supports, Stacks, Stub Columns, Etc.		38

SECTION 4—DRAINAGE

Roof Drainage System Specifications		39
Illustrations—Barrett-Holt Leader and Vent Connections		40

SECTION 4—DRAINAGE (Continued)

Method of Installing Barrett-Holt Leader Connections:

Type 1-LG, for gravel or slag surfaced roofs	41
" 1-LS, for smooth surfaced roofs	41
" 1-LM, for metal roofs and gutters	41
" 2-LG, for steep gravel or slag surfaced roofs	42
" 2-LS, for steep smooth surfaced roofs	42
" 5-LG, (sump type) for gravel or slag roofs	43
" 5-LS, (sump type) for smooth surfaced roofs	43
" 5-LM, (sump type) for metal roofs and gutters	43
" 6-LG, for gravel or slag surfaced roofs	44
" 6-LS, for smooth surfaced roofs	44
" 6-LM, for metal roofs and gutters	44
" 1-LT, for tile or similar surfaced roofs	45
" 6-LT, for tile or similar surfaced roofs	45

Method of Installing Barrett-Holt Vent Connections:

Type 6-VG, for gravel or slag surfaced roofs	46
" 6-VS, for smooth surfaced roofs	46
" 6-VT, for tile surfaced roofs	46
" 6-VM, for metal roofs and gutters	46

SECTION 5—WATERPROOFING

Waterproofing Against Hydrostatic Pressure 47

Membrane Method—Substructure Waterproofing (for Walls, Footings, Pits, Vaults, Etc.)	48 and 49
" " —Swimming Pools, Shower Rooms, Etc.	50
" " —Elevated Highways or Bridges, Ramps, Etc.	51
" " —Solid Deck Railroad Bridges	52
Flashing Details —Solid Deck Railroad Bridges	53
Membrane Method—Underground Subways, Tunnels, Etc.	54
" " —Reservoirs, Basins, Etc.	55
" " —Superstructure, Concrete or Wood Floors	56

SECTION 6—DAMPPROOFING

Dampproofing Against Moisture 57

Foundation Walls, Retaining Walls and Abutments	58
Stone Backing and Stainproof Method for Exterior Face Stone	59
Dampproof Coating and Plaster Bond for Masonry Walls Above Grade (Plastic Type)	60
Dampproof Coating and Plaster Bond for Masonry Walls Above Grade (Liquid Coating and Semi-Mastic Type)	61
Dampproof Coating and Plaster Bond for Masonry Walls Above Grade (Tile Finish)	62
Dampproof and Wood Preservative Methods for Floors	63
Dampproofing for Use Under Wood Floors Over Earth or Over Concrete Base (Barrett Tar-Rok Method)	64
Details for Waterproofing Basements	65
Coal Tar Emulsion Dampproofing and Curing Compound for Concrete	66
Barrett Approved Roofer	67



FOREWORD

This manual contains specifications and detailed drawings treating with the following subjects:

Built-Up Roofing—for flat roof decks—	Section 1
Built-Up Roofing—for steep roof decks—	Section 2
Roof Flashing	Section 3
Roof Drainage	Section 4
Waterproofing	Section 5
Dampproofing	Section 6

The data presented comprise the most practical methods and procedure based on three quarters of a century's experience, the essence of which is incorporated to the fullest extent possible. The details are arranged to show exactly the construction secured when the accompanying specifications are adhered to . . . the object being to provide the architect, builder or building owner with reference material which is designed from his viewpoint and with his interest in mind.

Architects and construction engineers in all parts of the country have found the methods recommended by Barrett in this manual to be entirely reliable and in accord with the most up-to-date engineering practices. The practical demonstration of their value is evidenced by their use on so many of the nation's finest and largest structures.

For any unusual roofing or waterproofing problems, or conditions not covered in this book, a construction service department is maintained, the members of which are available for consultation at any time and without obligation.

THE TECHNICAL SERVICE BUREAU

of THE BARRETT COMPANY places at the disposal of all those interested, general and technical information and facts of value in the fields served by BARRETT. This service is supplied without cost or obligation as THE BARRETT COMPANY's contribution to the broad development of these fields in which it has been identified with leadership for many years. Address The Technical Service Bureau of THE BARRETT COMPANY, 40 Rector Street, New York, N. Y.

THE BARRETT COMPANY

40 RECTOR STREET • NEW YORK • N. Y.

2800 So. Sacramento Avenue
Chicago, Illinois

Birmingham
(P. O. Fairfield)
Alabama

In Canada
The Barrett Co. Ltd.
Montreal, Que.



PROTECTION FOR BUILDINGS

BUILT-UP ROOFING • FLASHING • DAMPPROOFING MEMBRANE WATERPROOFING • ROOF DRAINAGE

LEGEND

ROOFING

	Page
A Barrett Specification Roofs.....	9
B Barrett Roof Flashing System.....	27
C Barrett Roof Drainage System.....	39

BARRETT WATERPROOFING SYSTEM

Membrane Method

D Substructure waterproofing.....	48-49
E Outside walls and footings.....	48-49
F Waterproofing elevator pit.....	49
G Waterproofing of swimming pool...	50
H Waterproofing of shower room and stalls	50

BARRETT DAMPPROOFING SYSTEMS

Dampproofing—Walls

I Hydronon method for foundation walls, retaining walls and abutments	58
J Pitch Coating Method for foundation walls, retaining walls and abutments	58
K Dampproof Coating and Plaster Bond Method for hollow tile walls.....	61
L Dampproof Coating and Plaster Bond Method for brick walls.....	60
M Method of applying tile over dampproof coating	62

Dampproofing—Floors

N Hydronon method for wood floors..	63
O Hydronon method for cement floors	63
P Tar-Rok method.....	63-64

BARRETT FLASHING SYSTEM

Parapet Walls

Q Through wall flashing.....	32-34-36
R Through wall flashing.....	32-34-36

Spandrel Beams

S Spandrel Flashing, Base and Counter Type.....	36
T Spandrel Flashing Counter Type...	36
U Window Head Flashing.....	36
V Window Sill Flashing.....	36

Stone Backing

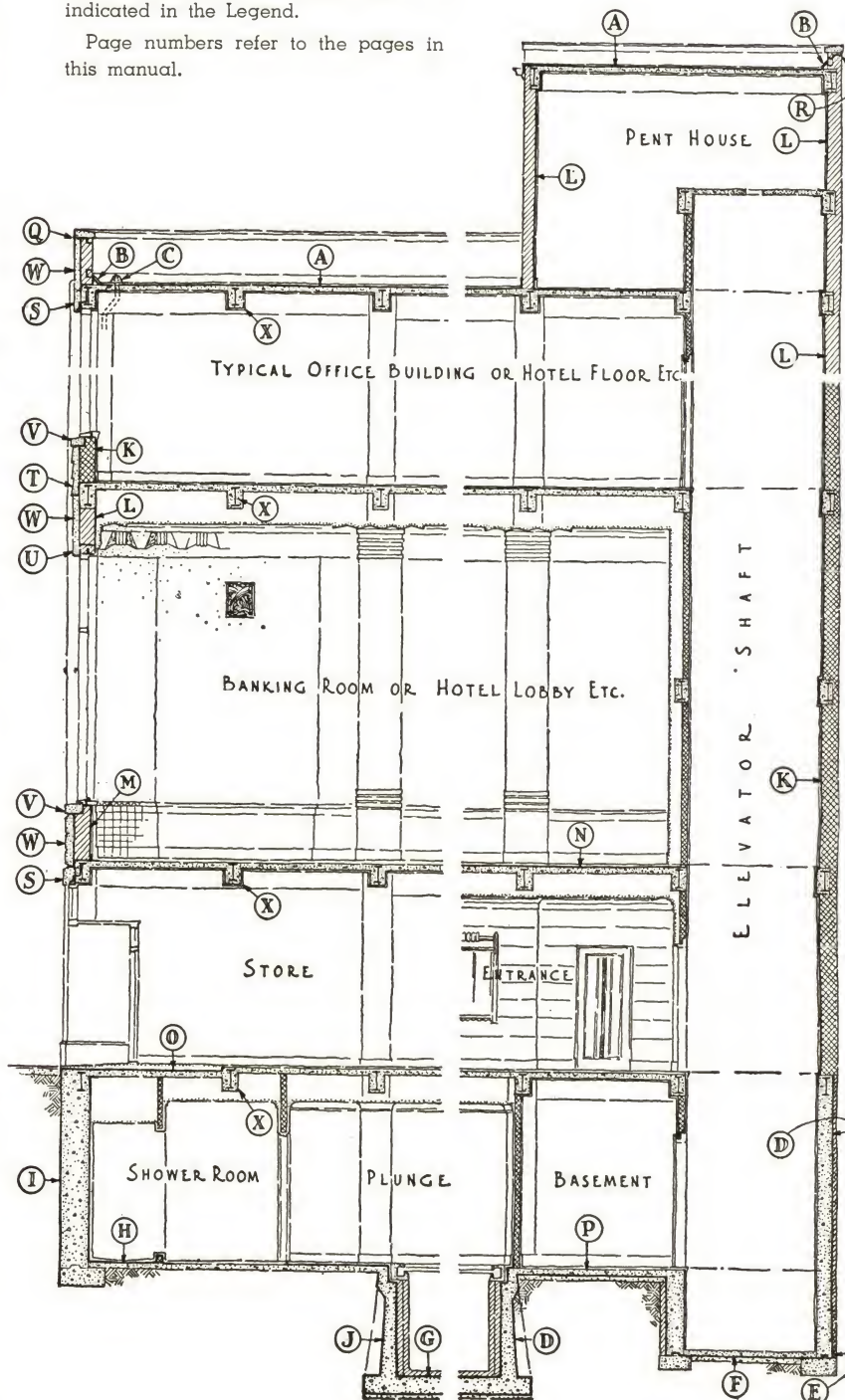
W Stone backing and stainproof method for exterior face stone.....	59
--	----

BARRETT PROTECTIVE PAINT

X Everjet Protective Paint for Steel Beams, etc.	
--	--

Code letters on this drawing correspond to Barrett Specifications for roofing, waterproofing or dampproofing as indicated in the Legend.

Page numbers refer to the pages in this manual.



SINCE 1854

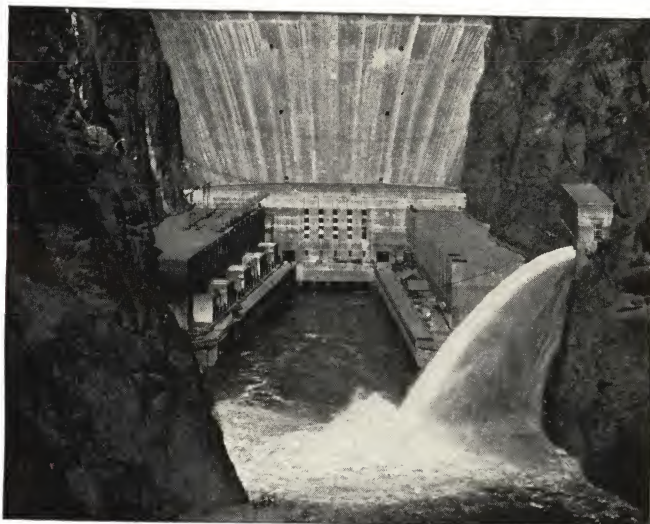
BETWEEN THE WORLD AND THE WEATHER

BARRETT'S leadership in roofing and waterproofing dates back more than three-quarters of a century. Pioneers in the field, Barrett has, since the early days of built-up roof construction, improved its materials, application methods and facilities for service, stride for stride with the advance of the building industry.

Today the famous Barrett Specification is recognized everywhere as the standard of value for built-up roof construction—a ranking consistently held since its introduction decades ago. Barrett introduced the practice of bonding roofs, definitely freeing building owners from periodical repair or maintenance expense. Barrett initiated the bonding of roof flashing, eliminating divided responsibility. The Barrett organization of approved roofing contractors was the first ever established; and Barrett's complete roof inspection service, introduced years ago, is unique in the roofing field.



Exchange Building, Boston, Mass.—Barrett Roofed 1889



Boulder Dam—the Great U-shaped Power House Is Protected by Barrett Roofing Materials

That this complete service has obtained uniformly satisfactory results is demonstrated by thoroughly authenticated records of proved performance—many of the early installations having already given 30, 40 and 50 years of service without repair or maintenance expense. Repeat business from nationally recognized organizations substantiates these records and presents staunch testimony to the enduring qualities of Barrett Roof construction.

We believe that such records of performance, together with the universal acceptance of this type of roof by leading architects, engineers and builders of modern structures, convincingly demonstrate that there are no better materials for built-up roof construction than high quality coal tar pitch and roofing felt . . . and that no finer materials of this character are obtainable than those bearing the Barrett label.

Barrett



Then.....

Time gives proof of roof performance. It is not unusual for Barrett Roofs to outlive the useful lives of the buildings on which they are placed. There are hundreds of Barrett Coal-tar Pitch and Felt Roofs giving 100% satisfaction after 40 to 50 years of hard service. These records, unique in the built-up roofing industry, point the way for building owners who want complete and lasting freedom from roof worries.

The dominance of Barrett Built-Up Roofs in almost every community is proof that the outstanding merit of Bar-



Barrett



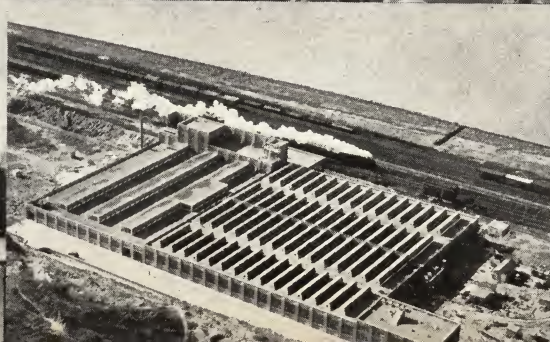
and Now

rett Roof materials and methods is today universally recognized by architects and engineers. They have specified Barrett Roofs for America's greatest buildings (every world's tallest building since the Woolworth has had a Barrett Roof) . . . for huge manufacturing plants, public buildings, hotels, apartment buildings, schools and colleges, store and office buildings, and modern flat-roofed houses.

For monumental structure or simple business block, Barrett Specification Roofs represent the soundest investment.



Roofs



Barrett Specification Roofs

* Trade Mark Registered U. S. Pat. Off.

Exact and definite building specifications encourage fair bidding practices and promote good construction. They are welcomed by reliable contractors because they establish recognized standards and truly comparative proposals.

The Barrett Specification stipulates known quantities, known qualities and known application technique to produce a known result—a roof that will be free from upkeep and maintenance expense for 20 years, at least.

Both Barrett Specification Pitch and Barrett Specification Felt are manufactured to be—and conceded to be—the best it is possible to produce. Barrett Specification Pitch is preserved by water. Its life-prolonging oils are protected by the same dampness and moisture that weaken ordinary materials. It is self-healing; is virtually immune to climatic variations; and possesses creosote properties that outlaw fermentation or the development of fungi. Roofing gravel, slag, slate or tile provides a fire-safe, practically indestructible wearing surface which protects the membrane, reflects heat and permits the use of a maximum of waterproofing materials. Barrett Specification Roofs carry Underwriters' Class "A" rating . . . the base rate for insurance.

Barrett Specification Roofs are applied only by Barrett Approved Roofers; the selection of whom is based upon experience, ability and integrity. Architects, engineers and builders may rely on them completely to satisfactorily execute the character of work incorporated in this publication.

The Barrett Bond

Barrett Specification Roofs are bonded by the United States Fidelity and Guaranty Company against repair and maintenance expense, thus providing a certainty of performance that is seldom equaled in the building industry. Barrett Specification Roofs, Type "AA" are bonded for 20 years; Type "A" for 15 years, in accordance with specifications in this manual. Barrett also bonds its flashing systems for like periods when the flashing is installed in conjunction with the application of a Barrett Bonded Roof. This complete service is furnished under one contract and eliminates divided responsibility on this important work.



The Barrett Inspector Making the Famous "Section Test"

Barrett Roof Inspection Service

Barrett Roof Inspection Service, introduced by Barrett years ago, is unique in the roofing field. The work of Barrett Approved Roofers is executed under the direct supervision of technically trained Barrett Inspectors, assuring to the purchaser roof performance far beyond that prescribed in any guarantee or bond. The services of a Barrett Roof Inspector are available for consultation without cost or obligation to owners of flat-roofed buildings east of the Rockies. He will render a complete, detailed, unbiased report on conditions found and recommend adequate procedure where corrections or repairs are required.

SECTION 1

FLAT ROOFS

INCLINES NOT
TO EXCEED
2 INS. TO 1 FT.

BARRETT SPECIFICATION ROOFS

TYPE "AA"—BONDED FOR 20 YEARS

TYPE "A"—BONDED FOR 15 YEARS

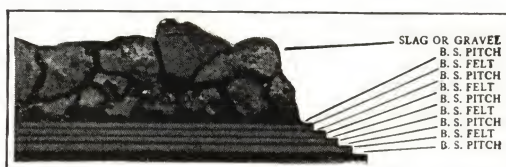
Flat Roof Classification

Roofs having inclines of not more than two inches in one foot are generally classified as flat roofs.

The practical purpose of the flat roof, or of any roof, is to protect the interior, the contents and the occupants of a building from rain, snow, heat and cold. In addition, a good roof should provide effectual protection against the spread of fire, prevent dampness, add to the character of the building, and offer freedom from periodical repair or maintenance expense.

The Barrett Specification for Flat Roofs

The Barrett Specification Roof—Type "AA" or Type "A"—meets these requirements for flat roof construction. It is constructed of highest quality coal tar pitch and roofing felt, properly applied in the membrane manner; and surfaced with gravel, roofing slag, promenade slate or quarry tile.



Barrett Specification Roofing

Built of alternate layers of Barrett Specification Pitch and Felt (the top coat of pitch is poured) with an indestructible wearing surface of gravel or slag.

Insurance Savings

Barrett Specification Roofs take the base rate of insurance. They require no painting or coating. Their moderate first cost and enduring qualities effect a cost per year of service far below that of any other type of built-up roof known. They provide a permanent part of permanent building construction.

Black Diamond Roofs

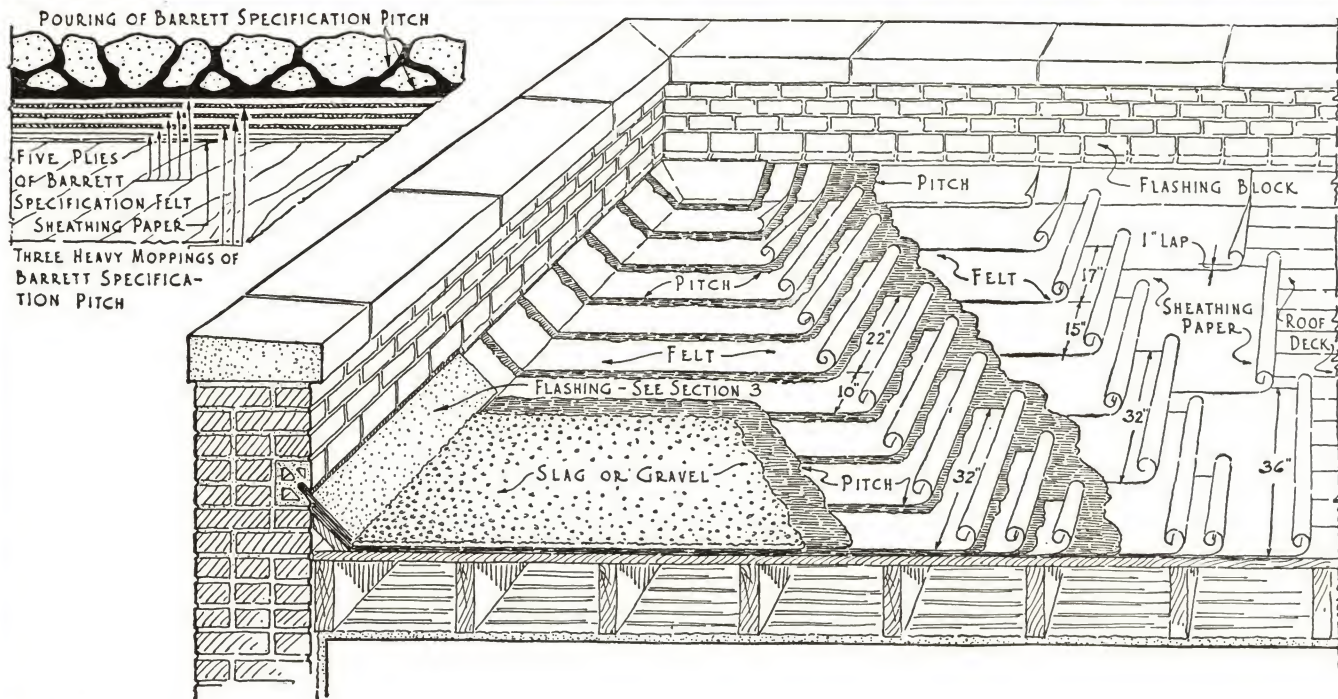
Barrett also manufactures the time-tested Black Diamond Roofing Materials. Black Diamond Pitch and Black Diamond Felt meet the exacting requirements of recognized Government, ASTM and AREA specifications. When applied by Barrett Approved Roofers, in accordance with our requirements and specification procedure contained herein, Barrett Black Diamond Roofs are bonded against repair and maintenance expense for the periods stated.

Specifications

The specifications which follow are based on proper use of materials of recognized quality and quantity. They have been formulated by THE BARRETT COMPANY and cover many particular types of flat roof construction recommended for use under the specific conditions outlined. Specifications for procedure under conditions not contained herein, or where re-roofing operations are involved, will be furnished gladly on request.

SINCE
1854

FOR USE OVER—Wood Decks.
INCLINE—Not exceeding 2" to 1'-0".
TYPE "AA"—5 Ply Construction.
TYPE "A"—4 Ply Construction.



20 YEAR BOND TYPE "AA" BARRETT SPECIFICATION ROOF

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Specification Roof, Type "AA", laid in accordance with the Barrett Specification (for use over boards), by a roofing contractor approved by THE BARRETT COMPANY. The roofing contractor shall furnish THE BARRETT COMPANY's Surety Bond Guaranty for twenty (20) years from date of completion, in accordance with Note No. 1 of said specification.

COMPLETE SPECIFICATION

PREPARATION OF DECK—The roof deck shall be of seasoned lumber, smooth and free from loose boards, large cracks or knot holes, and free from loose material. If roof deck is inclined, it shall be properly graded to outlets.

APPLICATION OF ROOFING—First—Lay one (1) thickness of sheathing paper or unsaturated felt weighing not less than five (5) pounds per one hundred (100) square feet, lapping the sheets at least one (1) inch.

Second—Over the entire surface lay two (2) plies of Barrett Specification Tarred Felt, lapping each sheet seventeen (17) inches over preceding one and nail as often as is necessary to hold in place until remaining Felt is laid.

Third—Coat the entire surface uniformly with Barrett Specification Pitch.

Fourth—Over the entire surface lay three (3) plies of Barrett Specification Tarred Felt, lapping each sheet twenty-two (22) inches over

preceding one, mopping with Barrett Specification Pitch the full twenty-two (22) inch lap on each sheet so that in no place shall Felt touch Felt. Such nailing as is necessary shall be done along the upper edge of each sheet so that all nails will be covered by not less than two (2) plies of Felt.

Fifth—Over the entire surface pour from a dipper a uniform coating of Barrett Specification Pitch, into which, while hot, embed not less than four hundred (400) pounds of gravel or three hundred (300) pounds of slag for each one hundred (100) square feet. The gravel or slag shall be from one-quarter (1/4) inch to five-eighths (5/8) inch in size, dry and free from dirt.

GENERAL—The Felt shall be laid without wrinkles or buckles. Not less than one hundred and fifty (150) pounds of Pitch shall be used for constructing each one hundred (100) square feet of completed roof, and the Pitch shall not be heated above four hundred (400) degrees Fahrenheit.

The roof shall be applied by a roofing contractor approved by THE BARRETT COMPANY. He shall furnish THE BARRETT COMPANY's Surety Bond Guaranty issued by the U. S. Fidelity and Guaranty Co. of Baltimore, covering a period of twenty (20) years from date of completion, in accordance with Note No. 1.

Note No. 1—THE BARRETT COMPANY will give its Guaranty Bond on jobs of five thousand (5000) square feet or more in the United States and Canada where its inspection service is available, provided the roof is applied by a roofing contractor approved by THE BARRETT COMPANY in strict accordance with the above specification and subject to Barrett inspection and approval.

15 YEAR BOND TYPE "A" BARRETT SPECIFICATION ROOF

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Specification Roof, Type "A", laid in accordance with the Barrett Specification (for use over boards), by a roofing contractor approved by THE BARRETT COMPANY. The roofing contractor shall furnish THE BARRETT COMPANY's Surety Bond Guaranty for fifteen (15) years from date of completion, in accordance with Note No. 1 of said specification.

COMPLETE SPECIFICATION

Exactly the same as for Type "AA" above, except for the following changes:

APPLICATION OF ROOFING—Fourth—Over the entire surface lay two (2) plies of Barrett Specification Tarred Felt, lapping each sheet seventeen (17) inches over preceding one, mopping with Barrett Specification Pitch the full seventeen (17) inch lap on each sheet so that in no place shall Felt touch Felt. (Balance of paragraph remains the same.)

GENERAL—Change "one hundred and fifty (150)" to "one hundred and twenty-five (125)" pounds of Pitch.

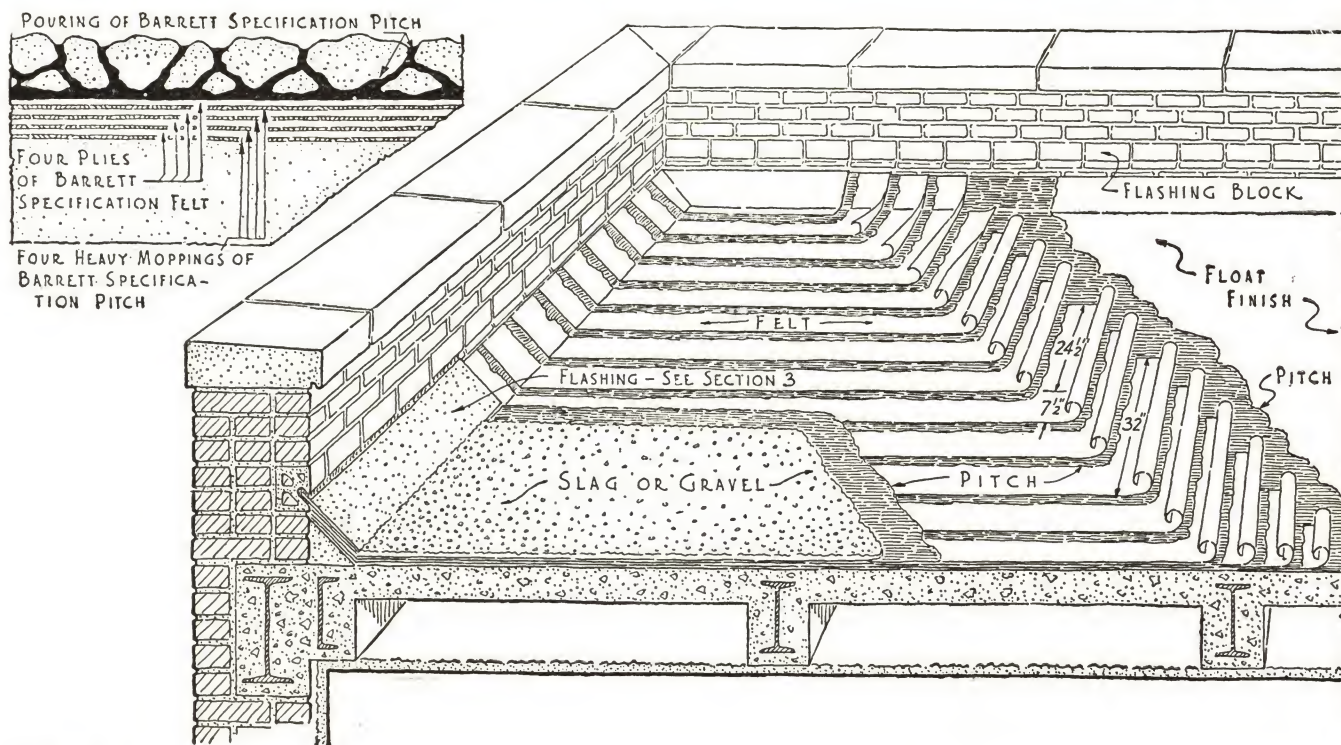
Change "period of twenty (20)" to "period of fifteen (15)" years.

Where Insulation Is Required, See Detail on Page 18.

See Section No. 3 for Flashing Specifications and Details.

FOR USE OVER—Poured Concrete or Poured Gypsum.
INCLINE—Not exceeding 2" to 1'-0".
TYPE "AA"—4 Ply Construction.
TYPE "A"—3 Ply Construction.

Barrett
 SINCE
 1854



20 YEAR BOND TYPE "AA" BARRETT SPECIFICATION ROOF

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Specification Roof, Type "AA," laid in accordance with the Barrett Specification (for use over poured concrete or poured gypsum) by a roofing contractor approved by THE BARRETT COMPANY. The roofing contractor shall furnish THE BARRETT COMPANY'S Surety Bond Guaranty for twenty (20) years from date of completion, in accordance with Note No. 1 of said specification.

COMPLETE SPECIFICATION

PREPARATION OF DECK—The roof deck shall be smooth, firm, dry and free from loose material. If roof deck is inclined, it shall be properly graded to outlets. On inclines exceeding one (1) inch to the foot, roof deck shall permit nailing or wood nailing strips shall be provided.

APPLICATION OF ROOFING—First—Coat the roof deck uniformly with Barrett Specification Pitch.

Second—Over the entire surface lay four (4) plies of Barrett Specification Tarred Felt, lapping each sheet twenty-four and one-half (24½) inches over preceding one, mopping with Barrett Specification Pitch the full twenty-four and one-half (24½) inch lap on each sheet, so that in no place shall Felt touch Felt. Such nailing as is necessary shall be done along upper edge of each sheet so that all

nails shall be covered by not less than three (3) plies of Felt.

Third—Over the entire surface pour from a dipper a uniform coating of Barrett Specification Pitch, into which, while hot, embed not less than four hundred (400) pounds of gravel or three hundred (300) pounds of slag for each one hundred (100) square feet. The gravel or slag shall be from one-quarter (¼) inch to five-eighths (⅝) inch in size, dry and free from dirt.

GENERAL—The Felt shall be laid without wrinkles or buckles. Not less than two hundred (200) pounds of Pitch shall be used for constructing each one hundred (100) square feet of completed roof, and the Pitch shall not be heated above four hundred (400) degrees Fahrenheit.

The roof shall be applied by a roofing contractor approved by THE BARRETT COMPANY. He shall furnish THE BARRETT COMPANY'S Surety Bond Guaranty issued by the U. S. Fidelity and Guaranty Company of Baltimore, covering a period of twenty (20) years from date of completion, in accordance with Note No. 1.

Note No. 1—THE BARRETT COMPANY will give its Guaranty Bond on jobs of five thousand (5000) square feet or more in the United States and Canada where its inspection service is available, provided the roof is applied by a roofing contractor approved by THE BARRETT COMPANY in strict accordance with the above specification and subject to Barrett inspection and approval.

15 YEAR BOND TYPE "A" BARRETT SPECIFICATION ROOF

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Specification Roof, Type "A," laid in accordance with the Barrett Specification (for use over poured concrete or poured gypsum) by a roofing contractor approved by THE BARRETT COMPANY. The roofing contractor shall furnish THE BARRETT COMPANY'S Surety Bond Guaranty for fifteen (15) years from date of completion, in accordance with Note No. 1 of said specification.

COMPLETE SPECIFICATION

Exactly the same as for Type "AA" above, except for the following changes:

APPLICATION OF ROOFING—Change the first sentence under "Second" to read as follows:

Second—Over the entire surface lay three (3) plies of Barrett Specification Tarred Felt, lapping each sheet twenty-two (22) inches over preceding one, mopping with Barrett Specification Pitch the full twenty-two (22) inch lap on each sheet so that in no place shall Felt touch Felt. (The balance of this paragraph is the same as for Type "AA".)

GENERAL—Change "two hundred (200)" to "one hundred and seventy-five (175)" pounds of Pitch.

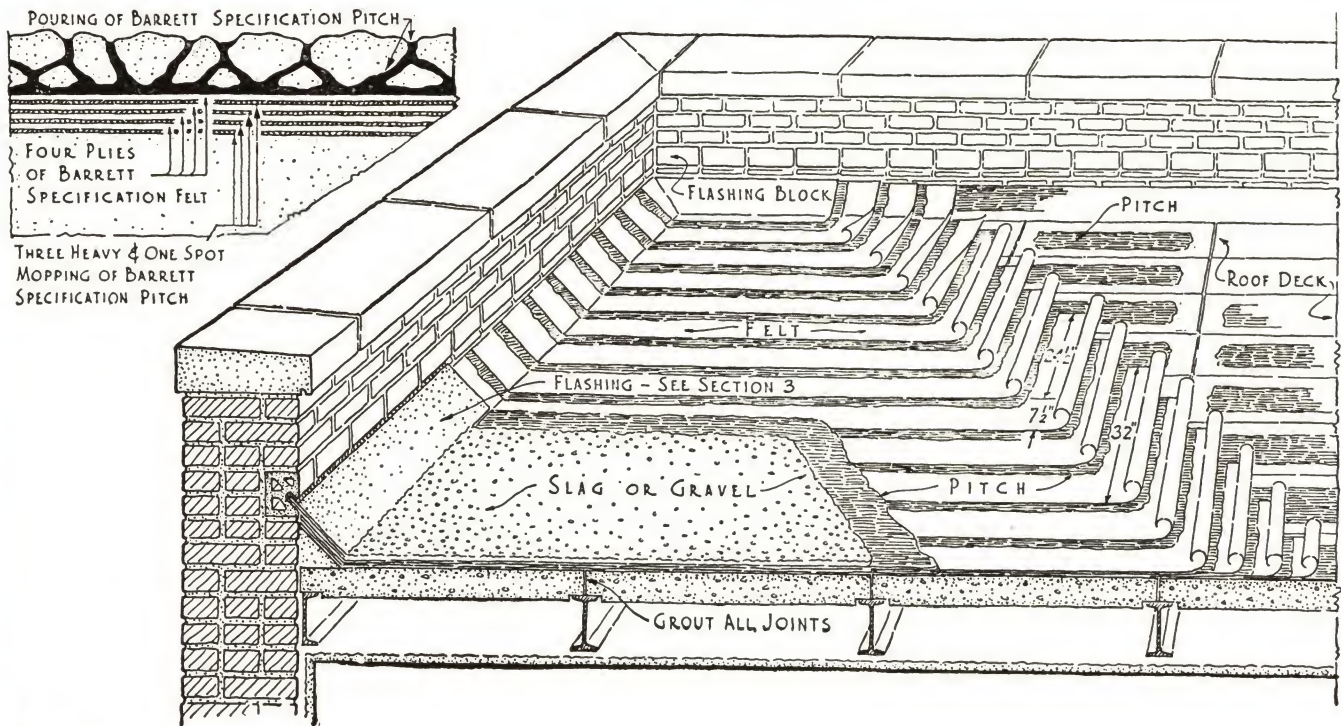
Change "period of twenty (20)" to "period of fifteen (15)" years.

Where Insulation Is Required, See Detail on Page 18.

See Section No. 3 for Flashing Specifications and Details.

SINCE
1854

FOR USE OVER—Precast Concrete Slabs.
INCLINE—Not exceeding 2" to 1'-0".
TYPE "AA"—4 Ply Construction.
TYPE "A"—3 Ply Construction.



20 YEAR BOND TYPE "AA" BARRETT SPECIFICATION ROOF

Note—Provision shall be made for Nailing Strips set parallel with incline of roof and spaced not more than three (3) feet apart.

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Specification Roof, Type "AA", laid in accordance with the Barrett Specification (for use over precast concrete slabs), by a roofing contractor approved by THE BARRETT COMPANY. The roofing contractor shall furnish THE BARRETT COMPANY's Surety Bond Guaranty for twenty (20) years from date of completion, in accordance with Note No. 1 of said specification.

COMPLETE SPECIFICATION

PREPARATION OF DECK—All joints between concrete slabs shall be properly grouted.

The roof deck shall be smooth, firm, dry and free from loose material. If roof deck is inclined, it shall be properly graded to outlets.

APPLICATION OF ROOFING—First—Spot or strip mop each slab with Barrett Specification Pitch, care being taken that pitch moppings are held back to within four (4) inches from the edge of each joint.

Second—Over the entire surface lay four (4) plies of Barrett Specification Tared Felt, lapping each sheet twenty-four and one-half (24½) inches, over preceding one, mopping with Barrett Specification Pitch the full twenty-four and one-half (24½) inch lap on each sheet, so that in no place shall Felt touch Felt. Nail each

sheet along upper edge so that nails are covered by not less than three (3) plies of Felt.

Third—Over the entire surface pour from a dipper a uniform coating of Barrett Specification Pitch, into which, while hot, embed not less than four hundred (400) pounds of gravel or three hundred (300) pounds of slag for each one hundred (100) square feet. The gravel or slag shall be from one-quarter (¼) inch to five-eighths (⅝) inch in size, dry and free from dirt.

GENERAL—The Felt shall be laid without wrinkles or buckles. Not less than two hundred (200) pounds of Pitch shall be used for constructing each one hundred (100) square feet of completed roof, and the Pitch shall not be heated above four hundred (400) degrees Fahrenheit.

The roof shall be applied by a roofing contractor approved by THE BARRETT COMPANY. He shall furnish THE BARRETT COMPANY's Surety Bond Guaranty issued by the U. S. Fidelity and Guaranty Company of Baltimore, covering a period of twenty (20) years from date of completion, in accordance with Note. No. 1.

Note No. 1—THE BARRETT COMPANY will give its Guaranty Bond on jobs of five thousand (5000) square feet or more in the United States and Canada where its inspection service is available, provided the roof is applied by a roofing contractor approved by THE BARRETT COMPANY in strict accordance with the above specification and subject to Barrett inspection and approval.

15 YEAR BOND TYPE "A" BARRETT SPECIFICATION ROOF

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Specification Roof, Type "A", laid in accordance with the Barrett Specification (for use over precast concrete slabs), by a roofing contractor approved by THE BARRETT COMPANY. The roofing contractor shall furnish THE BARRETT COMPANY's Surety Bond Guaranty for fifteen (15) years from date of completion, in accordance with Note No. 1 of said specification.

COMPLETE SPECIFICATION

Exactly the same as for Type "AA" above, except for the following changes:

APPLICATION OF ROOFING—Change paragraph headed "Second", to read as follows:

Second—Over the entire surface lay three (3) plies of Barrett Specification Tared Felt, lapping each sheet twenty-two (22) inches over preceding one, mopping with Barrett Specification Pitch the full twenty-two (22) inch lap on each sheet so that in no place shall Felt touch Felt.

GENERAL—Change "two hundred (200)" to "one hundred and seventy-five (175)" pounds of Pitch.

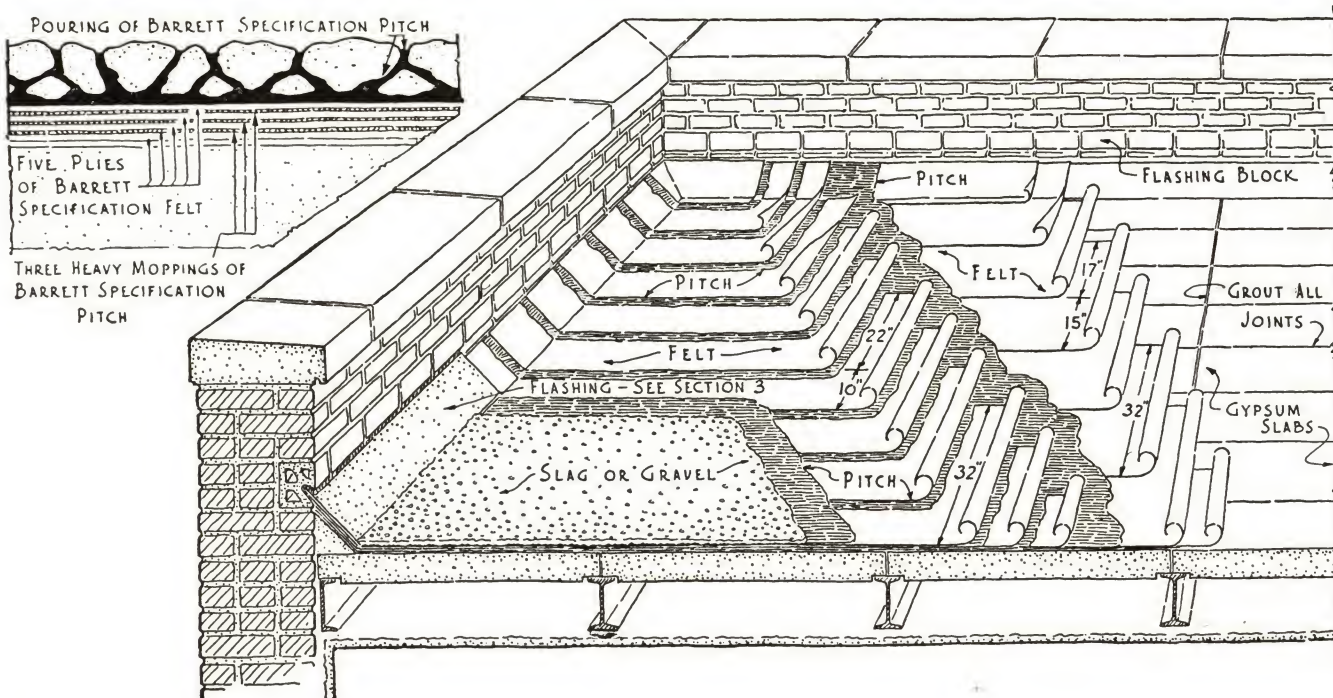
Change "period of twenty (20)" to "period of fifteen (15)" years.

Where Insulation Is Required, See Detail on Page 18.

See Section No. 3 for Flashing Specifications and Details.

FOR USE OVER—Precast Gypsum Slabs.
INCLINE — Not exceeding 2" to 1'-0".
TYPE "AA"—5 Ply Construction.
TYPE "A"—4 Ply Construction.

Barrett
 SINCE
 1854



20 YEAR BOND TYPE "AA" BARRETT SPECIFICATION ROOF

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Specification Roof, Type "AA", laid in accordance with the Barrett Specification (for use over precast gypsum slabs), by a roofing contractor approved by THE BARRETT COMPANY. The roofing contractor shall furnish THE BARRETT COMPANY's Surety Bond Guaranty for twenty (20) years from date of completion, in accordance with Note No. 1 of said specification.

COMPLETE SPECIFICATION

PREPARATION OF DECK—All joints between precast gypsum slabs shall be properly grouted.

The roof deck shall be smooth, dry and free from loose material. If roof deck is inclined, it shall be properly graded to outlets.

APPLICATION OF ROOFING—First—Over the entire surface lay two (2) plies of Barrett Specification Tarred Felt, lapping each sheet seventeen (17) inches over preceding one, and nail as often as is necessary to hold in place until remaining Felt is laid.

Second—Coat the entire surface uniformly with Barrett Specification Pitch.

Third—Over the entire surface lay three (3) plies of Barrett Specification Tarred Felt, lapping each sheet twenty-two (22) inches over preceding one, mopping with Barrett Specification Pitch the full twenty-two (22) inch lap on each sheet so that in no place shall

Felt touch Felt. Each sheet shall be nailed six (6) inches from the upper edge, nails to be spaced not more than two (2) feet apart. Nails shall not exceed seven-eighths ($\frac{7}{8}$) inch in length and shall be driven through flat tin discs one (1) inch or more in diameter.

Fourth—Over the entire surface pour from a dipper a uniform coating of Barrett Specification Pitch, into which, while hot, embed not less than four hundred (400) pounds of gravel or three hundred (300) pounds of slag for each one hundred (100) square feet. The gravel or slag shall be from one-quarter ($\frac{1}{4}$) inch to five-eighths ($\frac{5}{8}$) inch in size, dry and free from dirt.

GENERAL—The Felt shall be laid without wrinkles or buckles. Not less than one hundred and fifty (150) pounds of Pitch shall be used for constructing each one hundred (100) square feet of completed roof, and the Pitch shall not be heated above four hundred (400) degrees Fahrenheit.

The roof shall be applied by a roofing contractor approved by THE BARRETT COMPANY. He shall furnish THE BARRETT COMPANY's Surety Bond Guaranty issued by the U. S. Fidelity and Guaranty Company of Baltimore, covering a period of twenty (20) years from date of completion, in accordance with Note No. 1.

Note No. 1—THE BARRETT COMPANY will give its Guaranty Bond on jobs of five thousand (5000) square feet or more in the United States and Canada where its inspection service is available, provided the roof is applied by a roofing contractor approved by THE BARRETT COMPANY in strict accordance with the above specification and subject to Barrett inspection and approval.

15 YEAR BOND TYPE "A" BARRETT SPECIFICATION ROOF

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Specification Roof, Type "A" laid in accordance with the Barrett Specification (for use over precast gypsum slabs), by a roofing contractor approved by THE BARRETT COMPANY. The roofing contractor shall furnish THE BARRETT COMPANY's Surety Bond Guaranty for fifteen (15) years from date of completion, in accordance with Note No. 1 of said specification.

COMPLETE SPECIFICATION

Exactly the same as for Type "AA" above, except for the following changes:

APPLICATION OF ROOFING—Change the first sentence of paragraph headed "Third", to read as follows:

Third—Over the entire surface lay two (2) plies of Barrett Specification Tarred Felt, lapping each sheet seventeen (17) inches over preceding one, mopping with Barrett Specification Pitch the full seventeen (17) inch lap on each sheet so that in no place shall Felt touch Felt. (The balance of this paragraph is the same as for Type "AA").

GENERAL—Change "one hundred and fifty (150)" to "one hundred and twenty-five (125)" pounds of Pitch.

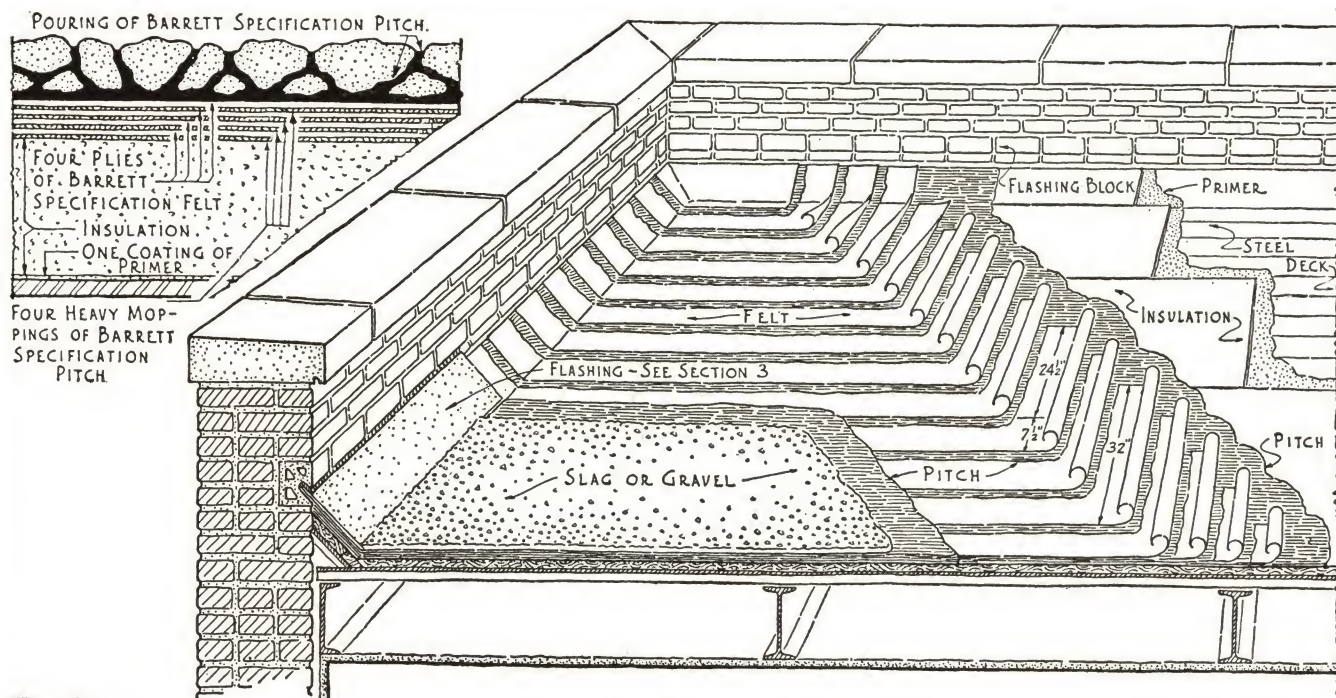
Change "period of twenty (20)" to "period of fifteen (15)" years.

Where Insulation Is Required, See Detail on Page 18.
 See Section No. 3 for Flashing Specifications and Details.

BARRETT SPECIFICATION ROOFS FOR FLAT DECKS

SINCE
1854

FOR USE OVER—Insulated Steel Decks.
INCLINE—Not exceeding 1" to 1'-0".
TYPE "AA"—4 Ply Construction.
TYPE "A"—3 Ply Construction.



20 YEAR BOND TYPE "AA" BARRETT SPECIFICATION ROOF

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Specification Roof, Type "AA", laid in accordance with the Barrett Specification (for use over steel roof decks), by a roofing contractor approved by THE BARRETT COMPANY. The roofing contractor shall furnish THE BARRETT COMPANY's Surety Bond Guaranty for twenty (20) years from date of completion in accordance with Note No. 1 of said specification.

COMPLETE SPECIFICATION

PREPARATION OF DECK—The roof deck shall be smooth, firm, dry and free from rust, grease or loose material. The weather surface shall be factory-primed to receive the roof covering. If roof deck is inclined, it shall be properly graded to outlets.

APPLICATION OF ROOFING—First—Over the entire surface spread a uniform coating of Barrett STEEP Roofing Asphalt into which, while hot, embed approved rigid roof insulation as specified. Insulation shall be kept and applied in a dry condition and shall be firm and free from defects or loose materials. Cut-offs consisting of two (2) plies of Barrett Waterproofing Fabric and three (3) moppings of Barrett STEEP Roofing Asphalt shall be applied every twenty (20) feet, during the application of the insulation, and such cut-offs shall extend at least six (6) inches on roof deck and four (4) inches on top of insulation. No more insulation shall be applied than can be immediately covered with roofing. Care shall be taken that all ends are properly flashed so that at no time shall surface or edges of insulation be exposed.

Second—Coat the entire surface of the insulation with Barrett Specification Pitch.

Third—Over the entire surface lay four (4) plies of Barrett Specification Tarred Felt, lapping each sheet twenty-four and one-half (24½) inches over preceding one, mopping with Barrett Specification Pitch the full twenty-four and one-half (24½) inch lap, so that in no place shall Felt touch Felt. Each sheet shall be nailed three (3) inches from upper edge, with soft-nosed nails of sufficient length to extend through the insulation and clinch. Nails to be spaced not more than two (2) feet apart.

Fourth—Over the entire surface pour from a dipper a uniform coating of Barrett Specification Pitch, into which, while hot, embed not less than four hundred (400) pounds of gravel or three hundred (300) pounds of slag for each one hundred (100) square feet. The gravel or slag shall be from one-quarter (¼) inch to five-eighths (⅝) inch in size, dry and free from dirt.

GENERAL—The Felt shall be laid without wrinkles or buckles. Not less than two hundred (200) pounds of Pitch shall be used for constructing each one hundred (100) square feet of completed roof, and the Pitch shall not be heated above four hundred (400) degrees Fahrenheit.

The roof shall be applied by a roofing contractor approved by THE BARRETT COMPANY. He shall furnish THE BARRETT COMPANY's Surety Bond Guaranty issued by the U. S. Fidelity and Guaranty Company of Baltimore, covering a period of twenty (20) years from date of completion, in accordance with Note No. 1.

Note No. 1—THE BARRETT COMPANY will give its Guaranty Bond on jobs of five thousand (5000) square feet or more in the United States and Canada where its inspection service is available, provided the roof is applied by a roofing contractor approved by THE BARRETT COMPANY in strict accordance with the above specification and subject to Barrett inspection and approval.

15 YEAR BOND TYPE "A" BARRETT SPECIFICATION ROOF

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Specification Roof, Type "A", laid in accordance with the Barrett Specification (for use over steel roof decks), by a roofing contractor approved by THE BARRETT COMPANY. The roofing contractor shall furnish THE BARRETT COMPANY's Surety Bond Guaranty for fifteen (15) years from date of completion in accordance with Note No. 1 of said specification.

COMPLETE SPECIFICATION

Exactly the same as for Type "AA" above, except for the following changes:

APPLICATION OF ROOFING—Change paragraph headed "Third" to read as follows:

Third—Over the entire surface lay three (3) plies of Barrett Specification Tarred Felt, lapping each sheet twenty-two (22) inches over preceding one, mopping with Barrett Specification Pitch the full twenty-two (22) inch lap, so that in no place shall Felt touch Felt. (Balance of paragraph remains the same.)

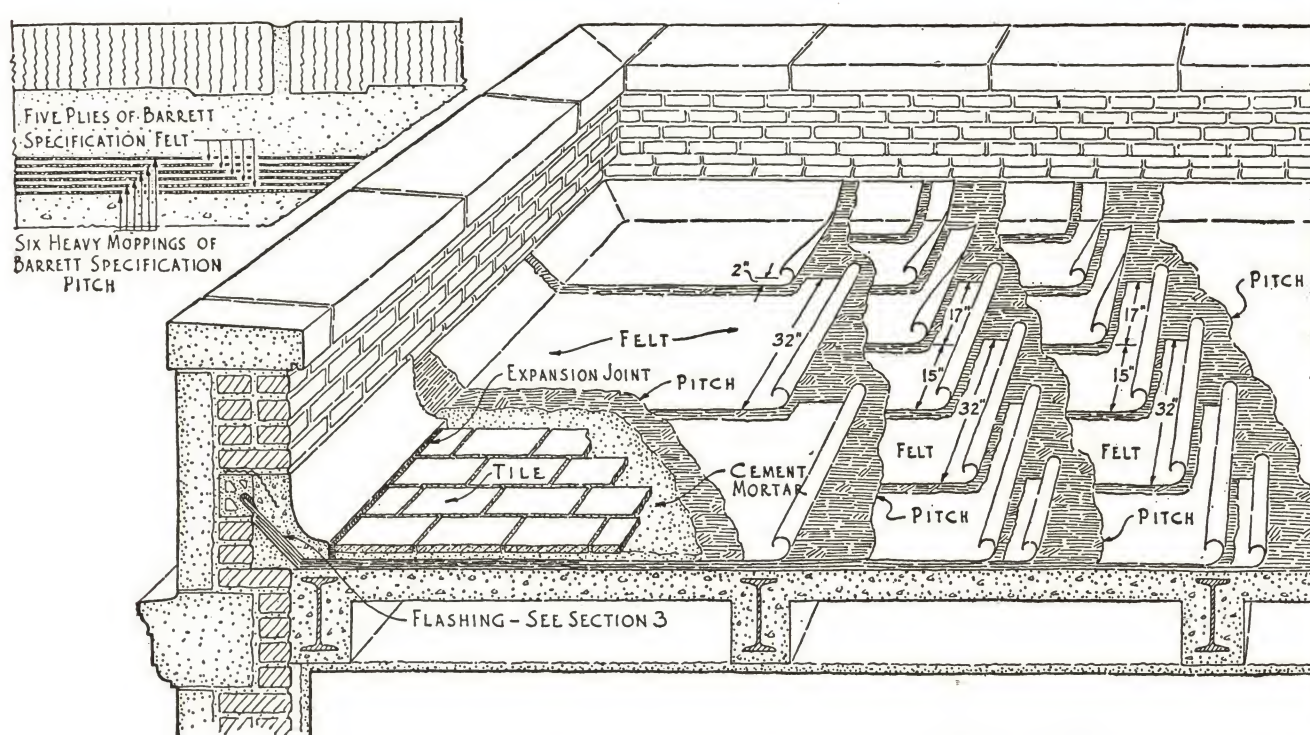
GENERAL—Change "two hundred (200)" to "one hundred seventy-five (175)" pounds of Pitch.

Change "period of twenty (20)" to "period of fifteen (15)" years.

FOR USE OVER—Concrete.
INCLINE—Not exceeding 1" to 1'-0".
5-PLY CONSTRUCTION.
SURFACING—Promenade Tile.

Barrett

SINCE
1854



BARRETT SPECIFICATION 5-PLY ROOF OVER CONCRETE FOR USE UNDER PROMENADE TILE

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Specification 5-Ply Roof, and shall be laid in accordance with the Barrett Specification (for use under promenade tile), by a roofing contractor approved by THE BARRETT COMPANY, who has had experience in this kind of work, and who can refer to similar installations where his work has proved satisfactory.

COMPLETE SPECIFICATION

PREPARATION OF DECK—The roof deck shall be smooth, firm, dry, properly graded to outlets, and free from loose material.

APPLICATION OF ROOFING—First—Coat the concrete uniformly with Barrett Specification Pitch.

Second—Over the entire surface lay two (2) plies of Barrett Specification Tarred Felt, lapping each sheet seventeen (17) inches over preceding one, mopping with Barrett Specification Pitch the full seventeen (17) inch lap on each sheet, so that in no place shall Felt touch Felt.

Third—Coat the entire surface uniformly with Barrett Specification Pitch.

Fourth—Over the entire surface lay two (2) plies of Barrett Specification Tarred Felt, lapping each sheet seventeen (17) inches over preceding one, mopping with Barrett Specification Pitch the full seventeen (17) inch lap on each sheet, so that in no place shall Felt touch Felt.

Fifth—Immediately preceding the laying of the tile, thoroughly clean the surface of the roof and mop same with Barrett Specification Pitch, into which, while hot, embed one (1) layer of Specifi-

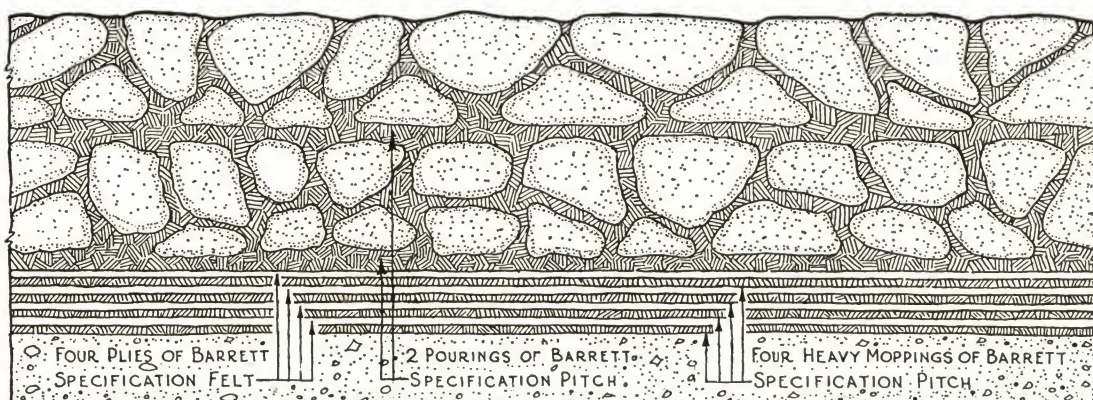
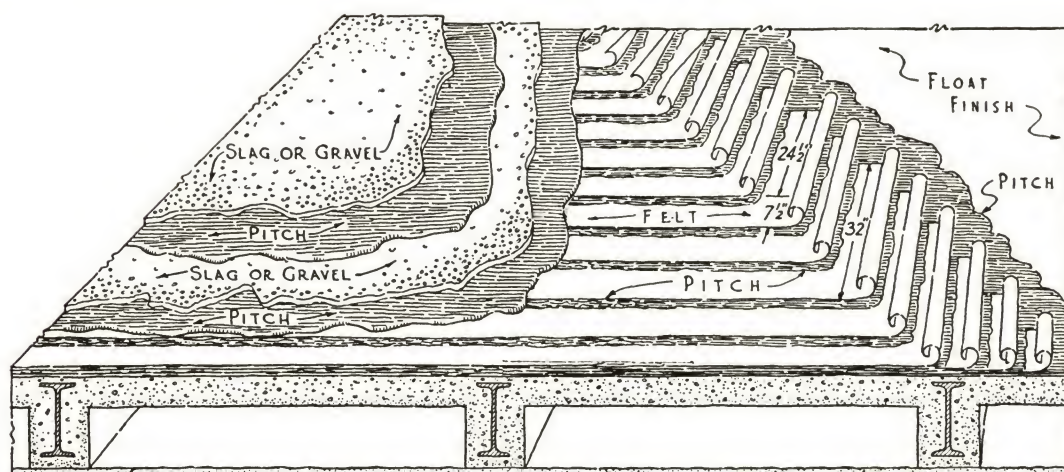
tion Felt, lapping each sheet two (2) inches over preceding one. Over this surface and immediately preceding the laying of the tile spread a heavy uniform coating of Barrett Specification Pitch. No more of the roof surface shall be covered with the final or last ply of Felt and mopping of Pitch than is covered at the same time with tile and is necessary to allow for proper connections.

Over the Felt and Pitch roofing thus laid, 1 x 6 x 9-inch vitrified clay tile (approved by the architect) shall be set in not less than three-fourths (3/4) inch of Portland Cement Mortar (1 to 3 mix) and joints grouted full with Portland Cement Mortar (1 to 2 mix). The tile shall be laid to show three-sixteenths (3/16) inch to one-fourth (1/4) inch joints. Expansion joints three-fourths (3/4) inch wide filled with a plastic mixture (approved by the architect) shall be provided between the tile and all flashings, and either metal or mastic expansion joints shall be provided throughout the roof surface as may be necessary to take care of expansion. All expansion joints shall extend from the top of the tile through the cement mortar to the Felt and Pitch waterproofing and in no case shall expansion joints be spaced more than twenty (20) feet apart.

GENERAL—The Felt shall be laid without wrinkles or buckles. Not less than two hundred (200) pounds of Pitch shall be used for constructing each one hundred (100) square feet of completed roof, and the Pitch shall not be heated above four hundred (400) degrees Fahrenheit. The roofing contract shall be awarded to a roofing contractor approved by THE BARRETT COMPANY, who has had experience in this kind of work, and who can refer to similar installations where his work has proved satisfactory.

See Section No. 3 for Flashing Specifications and Details.

FOR USE OVER—Poured Concrete.
INCLINE—Not exceeding 1/2" to 1'-0".
4-PLY CONSTRUCTION—DOUBLE SURFACING.



FULL SIZE SECTION

BARRETT SPECIFICATION ROOF FOR UTILITY OR SPRAY POND SERVICE

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Specification 4-Ply Roof, laid in accordance with the Barrett Specification (for use over concrete—double surfacing for utility or spray pond service), by a roofing contractor approved by THE BARRETT COMPANY.

COMPLETE SPECIFICATION

PREPARATION OF DECK—The roof deck shall be smooth, firm, dry, properly graded to outlets, and free from loose material.

APPLICATION OF ROOFING—First—Coat the concrete uniformly with Barrett Specification Pitch.

Second—Over the entire surface lay four (4) plies of Barrett Specification Tarred Felt, lapping each sheet twenty-four and one-half (24½) inches over preceding one, mopping with Barrett Specification Pitch the full twenty-four and one-half (24½) inch lap on each sheet, so that in no place shall Felt touch Felt. Only such nailing as is necessary shall be done along upper edge of each sheet so that all nails shall be covered by not less than three (3) plies of Felt.

Third—Immediately preceding the application of surfacing material, thoroughly clean the surface of the roofing, after which over the entire surface, pour from a dipper a uniform coating of Barrett

Specification Pitch, into which, while hot, embed not less than four hundred (400) pounds of gravel, or three hundred (300) pounds of slag for each one hundred (100) square feet.

Fourth—Remove all loose or excess gravel or slag by lightly sweeping all surfaces and immediately follow with hot pouring of Barrett Specification Pitch, applied to all surfaces, into which, while hot, embed not less than three hundred (300) pounds of gravel, or two hundred (200) pounds of slag for each one hundred (100) square feet. The gravel or slag shall be from one-quarter (¼) to five-eighths (⅝) inch in size, dry and free from dirt. All gravel or slag shall be firmly embedded in Pitch so that no loose particles appear in finished job. The finished surface may be lightly rolled if necessary.

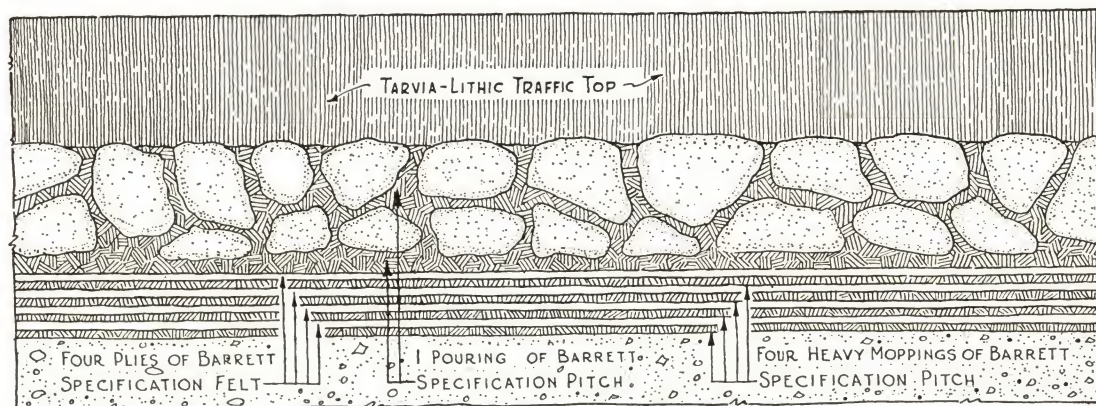
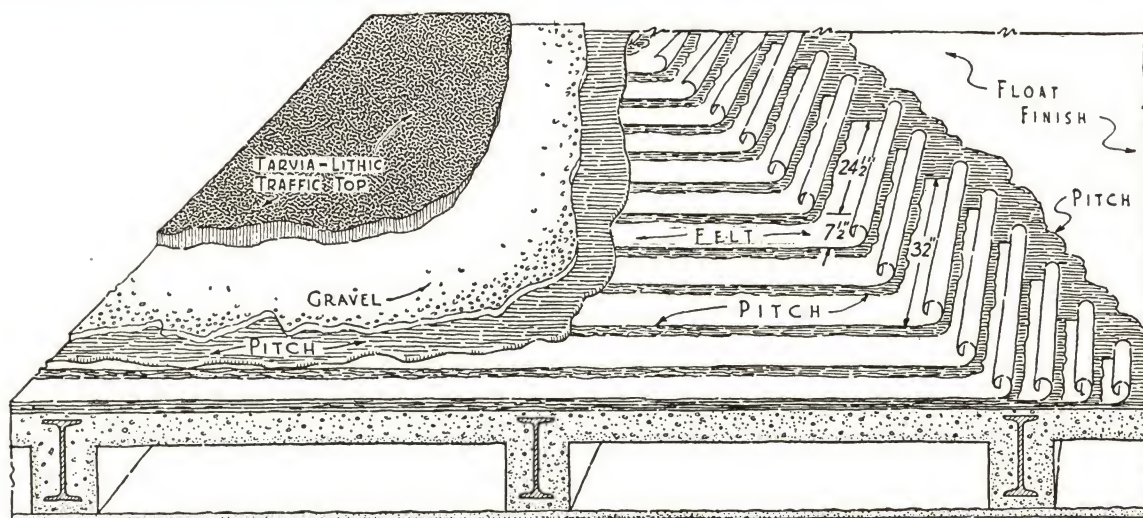
GENERAL—The Felt shall be laid without wrinkles or buckles. Not less than three hundred (300) pounds of Pitch shall be used for constructing each one hundred (100) square feet of completed roof, and the Pitch shall not be heated above four hundred (400) degrees Fahrenheit.

The roofing contract shall be awarded to a roofing contractor, approved by THE BARRETT COMPANY, who has had experience in this kind of work, and can refer to similar installations where his work has proved satisfactory.

FOR USE OVER—Poured Concrete.
INCLINE—Not exceeding 1/2" to 1'-0".
SURFACING—Bituminous Traffic Top.

Barrett

SINCE
1854



BITUMINOUS TRAFFIC TOP OVER ROOFING MEMBRANE

SPECIFICATION

The structural deck shall be smooth, firm, dry and free from dirt or loose material and shall be properly graded to outlets.

MEMBRANE—First—Coat the concrete uniformly with Barrett Specification Pitch.

Second—Over the entire surface lay four (4) plies of Barrett Specification Tarred Felt, lapping each sheet twenty-four and one-half (24½) inches over preceding one, mopping with Barrett Specification Pitch the full twenty-four and one-half (24½) inch lap on each sheet, so that in no place shall Felt touch Felt. Only such nailing as is necessary shall be done along upper edge of each sheet so that all nails shall be covered by not less than three (3) plies of Felt.

Third—Over the entire surface apply a uniform coating of Barrett Specification Pitch, into which, while hot, embed not less than three hundred (300) pounds nor more than four hundred (400) pounds of gravel per one hundred (100) square feet of surface. The gravel shall be from one-quarter (¼) inch to five-eighths (⅝) inch in size, dry and free from dirt.

TRAFFIC TOP—First—Over the surface of the membrane apply Tarvia-lithic Traffic Top Mix uniformly and sufficiently to compact

evenly to a thickness of one (1) inch under rolling. The Tarvia-lithic Mix shall be placed on metal plates and shoveled into position rather than dumped directly on to the membrane. Metal strips one and one-half (1½) inch high shall be used to secure proper loose thickness and shall be placed on ten (10) foot centers throughout the area to be surfaced. These strips shall be coated with a thin solution of lubricating oil to prevent sticking of the mixture during application.

The traffic top shall be rolled compact and even until the mixture does not creep under the roller. The rolling shall follow immediately after spreading of the mix over the membrane. After final rolling apply cement dust uniformly over the surface of the traffic top and broom into the surface with bristle brush.

Notes—No. 1—Where outlets are provided, they shall be properly placed so as to be level with traffic top course after rolling and shall be suitably flanged and screened.

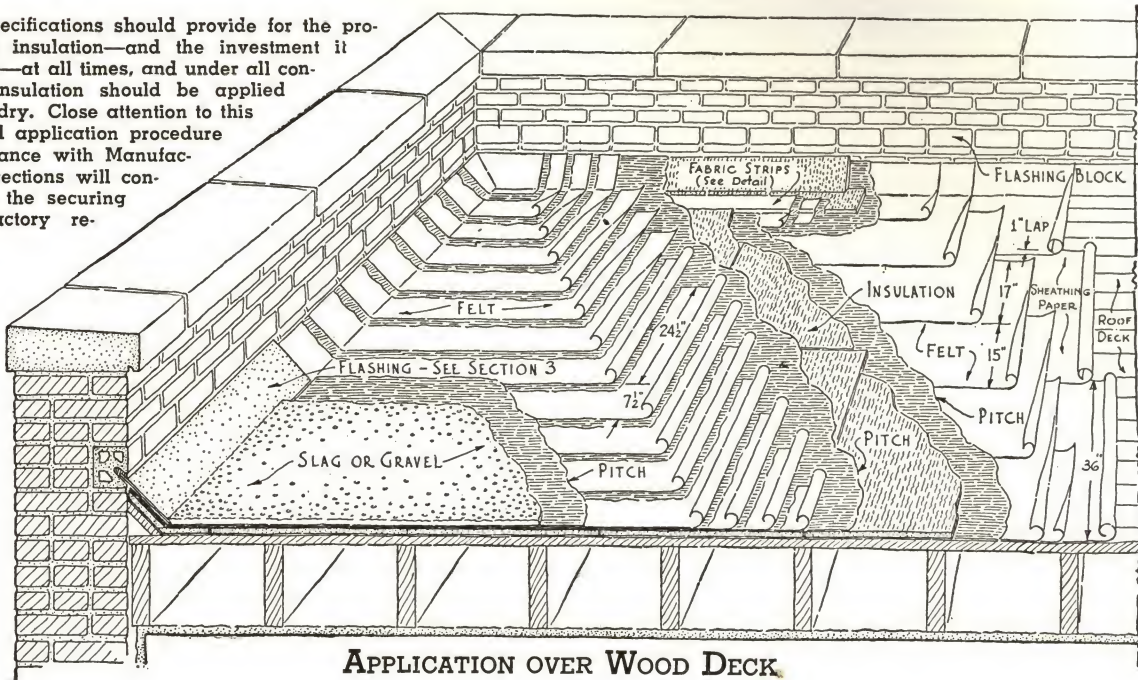
No. 2—Flashing shall be installed as required and shall be properly connected to membrane before application of the traffic top.

GENERAL—The work described above shall be applied by a contractor approved by THE BARRETT COMPANY, who has had experience on successfully applying this type of membrane and traffic top surfacing and who can refer to work of a similar nature which has been executed in a satisfactory manner.

BARRETT SPECIFICATION ROOFS UNDER TRAFFIC TOP

ROOF INSULATION DETAILS. FOR USE—Where Barrett Specification Roofs Are Installed Over Rigid Roof Insulation.

NOTE: Specifications should provide for the protection of insulation—and the investment it represents—at all times, and under all conditions. Insulation should be applied and kept dry. Close attention to this detail and application procedure in accordance with Manufacturers' directions will contribute to the securing of satisfactory results.



APPLICATION OVER WOOD DECK

DETAILS OF APPLICATION AND WATERPROOFING OF INSULATION OVER VARIOUS TYPES OF ROOF DECKS

ON WOOD ROOF DECKS—On wood roof decks, the installation of a waterproofing course, over which the insulation is applied, provides protection against moisture or deterioration from below. The waterproofing course should be of 2-ply construction over sheathing; i.e., each sheet lapped 17 inches over preceding one, and nailed along lower edge sufficiently to hold in place. All nails should be driven through flat tin discs and should not extend to under side of deck. The entire surface of the waterproofing course should then be coated with a uniform mopping of pitch into which, while hot, the insulation is laid.

OVER PRECAST SLABS—Over precast slabs, Rosin-sized sheathing may be omitted.

ON MONOLITHIC CONCRETE OR GYPSUM DECKS—On monolithic concrete or gypsum decks, the waterproofing course, consisting of two plies of tarred felt, is applied directly and fully to the roof deck. The felts should be stuck solidly to the deck, and together, with a uniform coating of hot pitch and the insulation laid in a hot mopping of pitch applied to the surface of the two-ply

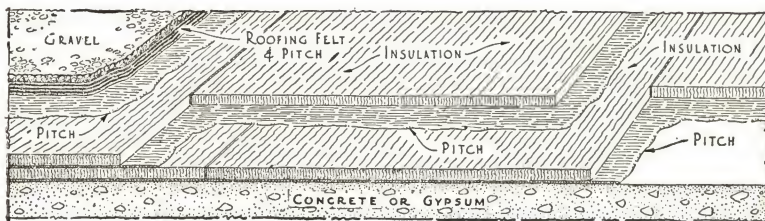
membrane. The roof deck in all cases shall be smooth, firm, free from loose materials, and shall be dry.

OVER INSULATION—Over insulation, and where base-protection course is provided, all roofing shall be solid-mopped as specified. Water cut-offs, consisting of 2 plies of Barrett Pitch Waterproofing Fabric and alternating moppings of pitch shall be installed at all edges of insulation adjoining parapet walls, curbs, or other vertical surfaces. Supplementary and continuous cut-offs of similar construction shall be installed approximately every 20 feet in each direction during application of insulation.

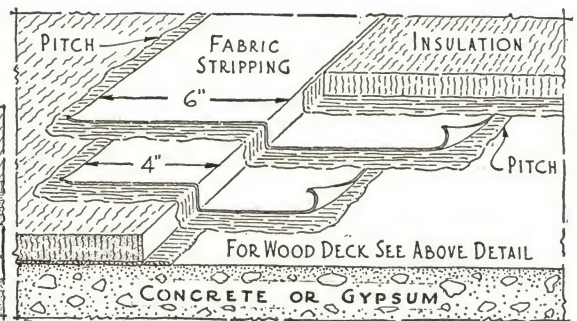
Note No. 1—Where multiple layers of insulation are installed, each succeeding layer shall break joints with underlying layer and shall be set in mopping of pitch.

Note No. 2—Insulation shall be immediately covered with roofing and edges shall be stripped and sealed after each day's work.

Where the above protection is provided, the specification for application of the roofing over insulation shall be in accordance with Type "AA" or Type "A" specification for use over poured concrete (page 11).



APPLICATION DETAIL FOR MULTIPLE LAYERS OF
INSULATION



APPLICATION DETAIL FOR ONE LAYER
OF INSULATION.
METHOD OF INSTALLING WATER CUT-OFF



SECTION 2

STEEP ROOFS

INCLINES
EXCEEDING
2 INS. TO 1 FT.

BARRETT SPECIAL STEEP ROOFS

Steep Roof Classification

Roofs having inclines in excess of two inches in one foot are generally classified as steep roofs.

Such roofs are not ordinarily required to hold rain water, slush, ice and snow for protracted periods. They are, however, subjected to longer periods of exposure to the harmful actinic rays of the sun, and should be constructed so as to provide complete protection under all prevailing conditions.

Roof Construction

Great care in construction and exacting inspection are desirable in steep roof work. The use of the proper materials and the proper application thereof are of paramount importance. Materials used in the construction of Barrett Built-Up Roofs for steep surfaces are particularly suited to the requirements involved. Applied, they form a continuous waterproofing mem-

brane which will not slide or rupture under normal deck stress or strain.

Under no circumstances should membrane coverings be left unprotected or exposed to the weather. For this reason, consistent with Barrett's policy of providing the most durable weathering surface, Barrett's steep roof construction is protected by crushed slag or gravel, or by mineralized aggregate obtainable in a variety of colors.

Application

Barrett's approved roofing organization is skilled in the application of steep roof construction, and can be relied upon to handle this type of work with the same degree of efficiency as is obtained on all Barrett Specification work.

The specifications in this section are recommended for use under the specific conditions as outlined.

BARRETT STEEP ROOF PITCH

A Revolutionary, New Building Product

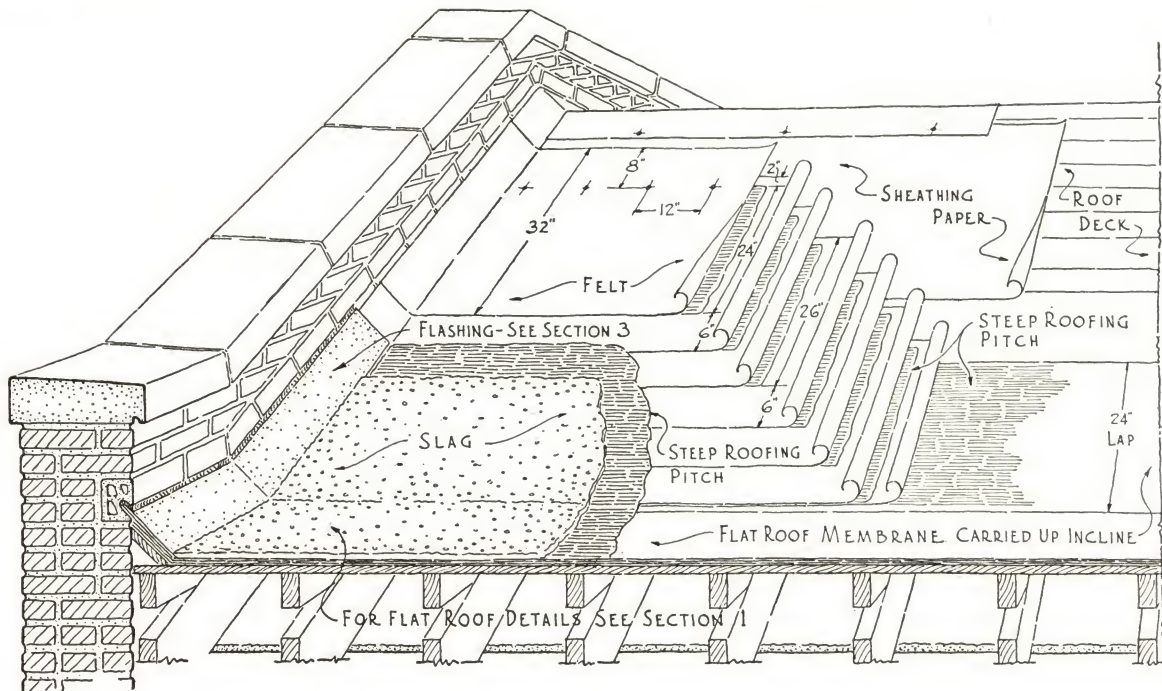
Barrett Steep Roof Pitch combines with **unusual stability** all the unmatched **waterproofing** and **weatherproofing** characteristics of coal tar pitch. The development of this revolutionary, new building product makes coal tar pitch, felt and gravel roofs possible on many types of buildings formerly denied this superior type of roof construction.

Practical installation experience under extreme conditions has demonstrated that Barrett Steep Roof

Pitch does not slide or "bleed" at the highest temperatures to which roofs are subjected and does not crack or lose bond during extreme cold.

Roofs constructed of Barrett Steep Roof Pitch and Barrett Specification Felt with a fire-safe gravel or slag wearing surface, applied according to Barrett Specifications by Barrett Approved Roofers, are bonded by the United States Fidelity and Guaranty Company against repair and maintenance expense for 20 years.

**FOR USE OVER—Wood Decks.
INCLINE—Over 2" and not exceeding 6" to 1'-0".
Bonded for 20 Years—5 Ply Construction.**



20 YEAR BOND BARRETT SPECIAL STEEP ROOF

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Special Steep Roof, and shall be laid in accordance with the Barrett Specification (for use over boards on steep surfaces), by a roofing contractor approved by THE BARRETT COMPANY. The roofing contractor shall furnish THE BARRETT COMPANY'S Surety Bond Guaranty for twenty (20) years from date of completion, in accordance with Note No. 1 of said specification.

COMPLETE SPECIFICATION

PREPARATION OF DECK—The roof deck shall be of seasoned lumber, smooth and free from loose boards, large cracks or knot-holes, and shall be firm, and free from loose material.

APPLICATION OF ROOFING—First—Lay one (1) thickness of sheathing paper or unsaturated felt weighing not less than five (5) pounds per one hundred (100) square feet, lapping the sheet at least one (1) inch. The sheathing paper shall be nailed sufficiently to hold it in place during application of the roofing.

Second—Over the entire surface lay five (5) plies of Barrett Specification Tarrd Felt at right angles to the incline of the roof, lapping each sheet twenty-six (26) inches over preceding one. Each sheet shall be nailed with one (1) inch barbed roofing nails through flat tin discs, eight (8) inches from the upper edge and nails shall be spaced not more than one (1) foot apart.

Third—Mop back on each sheet for a distance of twenty-four (24) inches with Barrett Steep Roofing Pitch. The Felt shall follow and shall be firmly embedded into the hot moppings as applied. Care shall be taken that the Pitch moppings are even with lower edge of each overlying sheet, and that the finished Felt surface is free and clean of Pitch drippage.

Fourth—Over the entire surface, spread with a mop a uniform coating of Barrett Steep Roofing Pitch into which, while hot, firmly embed not less than two hundred and fifty (250) pounds of slag for each one hundred (100) square feet of finished roofing. The slag shall be from one-quarter ($\frac{1}{4}$) to five-eighths ($\frac{5}{8}$) inch in size, shall be dry and free from dirt, and shall be embedded into the surface mopping immediately. If roofing is applied during cool weather, or slag is damp, slag shall be heated and dried, so that it is warm when applied to the roof. The slag surfacing shall be continuous and shall cover and shall be firmly embedded into the surface coating.

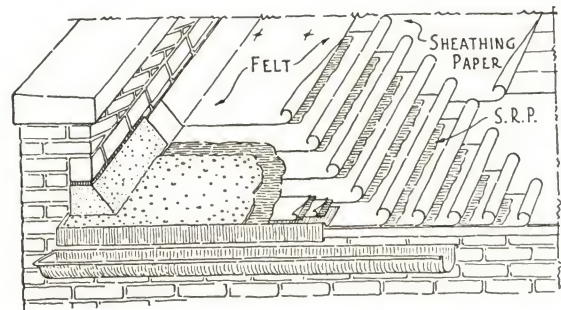
GENERAL—Felt shall be laid without wrinkles or buckles. Not less than eighty (80) pounds of Pitch shall be used for constructing the membrane, and not less than fifty (50) pounds nor more than sixty (60) pounds of Pitch shall be used for embedding the slag in constructing each one hundred (100) square feet of completed roof. The Pitch shall not be heated above four hundred (400) degrees Fahrenheit nor shall it be applied to the roof below three hundred fifty (350) degrees Fahrenheit.

Where steep roofs join flat roofs, the roofing on the flat surfaces shall be carried up the inclined surfaces, not less than twenty-four (24) inches before the application of the Steep Roofing.

The roof shall be applied by a roofing contractor approved by THE BARRETT COMPANY. He shall furnish THE BARRETT COMPANY'S Surety Bond Guaranty issued by the U. S. Fidelity & Guaranty Company of Baltimore, covering a period of twenty (20) years from date of completion in accordance with Note No. 1.

Note No. 1—THE BARRETT COMPANY will issue its Guaranty Bond on jobs in the United States and Canada, where its inspection service is available, provided the roof is applied by a roofing contractor approved by THE BARRETT COMPANY in strict accordance with the above specification, and subject to Barrett inspection and approval under the following conditions:

- (a) That the steep roof area shall be roofed in conjunction with the flat roof area.
- (b) That the flat roof area shall be covered with a Barrett Specification, Type "AA" or Type "A" roof.

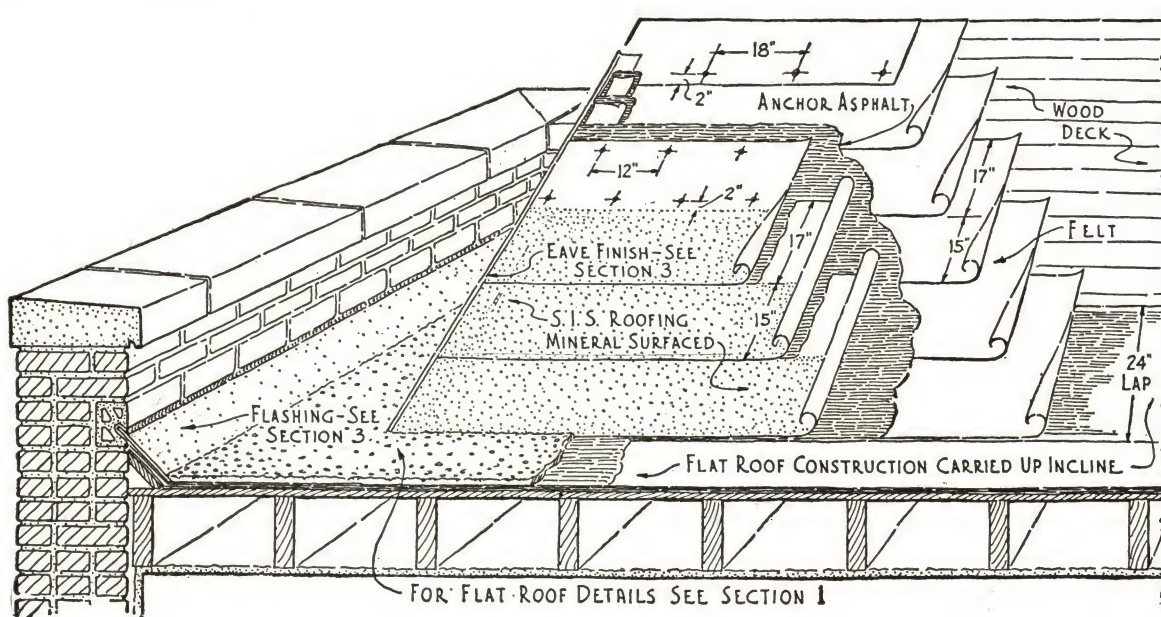


METHOD OF STARTING AT EAVES

**FOR USE OVER—Wood Decks.
INCLINE—Exceeding 4" to 1'-0".
TYPE S.I.S.—Bonded for 10 Years.**

Barrett

SINCE
1854



10 YEAR BOND BARRETT SPECIAL STEEP ROOF

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Special Steep Roof, Type S. I. S., and shall be laid in accordance with the Barrett Specification (for use over boards on steep surfaces), by a roofing contractor approved by THE BARRETT COMPANY. The roofing contractor shall furnish THE BARRETT COMPANY'S Surety Bond Guaranty for ten (10) years from date of completion, in accordance with Note No. 1 of said specification.

COMPLETE SPECIFICATION

PREPARATION OF DECK—The roof deck shall be of seasoned lumber, smooth and free from loose boards, large cracks or knot holes, and free from loose material.

APPLICATION OF ROOFING—First—Over the entire surface lay two (2) plies of Barrett Specification Tarred Felt at right angles to the incline of the roof, lapping each sheet seventeen (17) inches over preceding one. Each sheet shall be nailed two (2) inches from the lower edge with barbed roofing nails, through flat tin discs, spacing the nails not more than eighteen (18) inches apart.

Second—Over the entire surface spread with a mop a uniform coating of Barrett Anchor Brand Roofing Asphalt, into which, while hot, shall be immediately rolled Barrett S. I. S. Roofing laid at right angles to the incline of the roof, lapping the sheets the full width of the seventeen (17) inch selvage. All sheets of Barrett S. I. S. Roofing shall be securely fastened in place with a double course of one (1) inch barbed roofing nails driven through flat tin discs, and placed along the selvage side of the sheet. Nailing courses to be staggered and nails to be spaced not more than twelve (12) inches apart. The lower nailing course shall be held back two (2) inches from the mineral surfacing.

Third—Spread over the entire surface of the seventeen (17) inch selvage a uniform mopping of Barrett Anchor Brand Roofing Asphalt or S. I. S. cement into which shall be immediately rolled the following sheet of Barrett S. I. S. Roofing.

Fourth—All end laps shall be over-lapped at least six (6) inches. The underlying sheet of each end lap shall be nailed with six (6) nails through flat tin discs spaced five (5) inches apart starting

one (1) inch from the lower edge of the sheet. The six (6) inch lap shall be coated with Barrett Anchor Brand Roofing Asphalt or S. I. S. cement and the overlapping sheet thoroughly pressed down.

Fifth—The Barrett S. I. S. Roofing shall be cut in strips not to exceed twenty (20) feet in length and shall be stacked flat in piles at least twenty-four (24) hours before using.

GENERAL—The Felt and S. I. S. Roofing shall be laid without wrinkles or buckles. Not less than thirty (30) pounds of Anchor Asphalt per mopping or two (2) gallons of S. I. S. cement shall be used per one hundred (100) square feet of completed roofing.

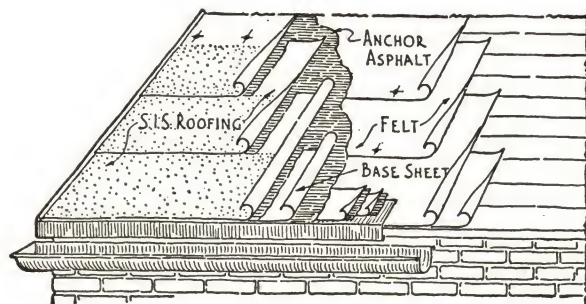
Where steep roofs join flat roofs, the roofing on the flat surfaces shall be carried up the inclined surfaces not less than twenty-four (24) inches before the application of the steep roofing.

The roof shall be applied by a roofing contractor approved by THE BARRETT COMPANY. He shall furnish THE BARRETT COMPANY'S Surety Bond Guaranty issued by the U. S. Fidelity and Guaranty Company of Baltimore, covering a period of ten (10) years from date of completion in accordance with Note No. 1.

Note No. 1—THE BARRETT COMPANY will give its Guaranty Bond on jobs in the United States and Canada where its inspection service is available, provided the roof is applied by a roofing contractor approved by THE BARRETT COMPANY in strict accordance with the above specification and subject to Barrett inspection and approval under the following conditions:

(a) That the steep roof area shall be roofed in conjunction with the flat roof area.

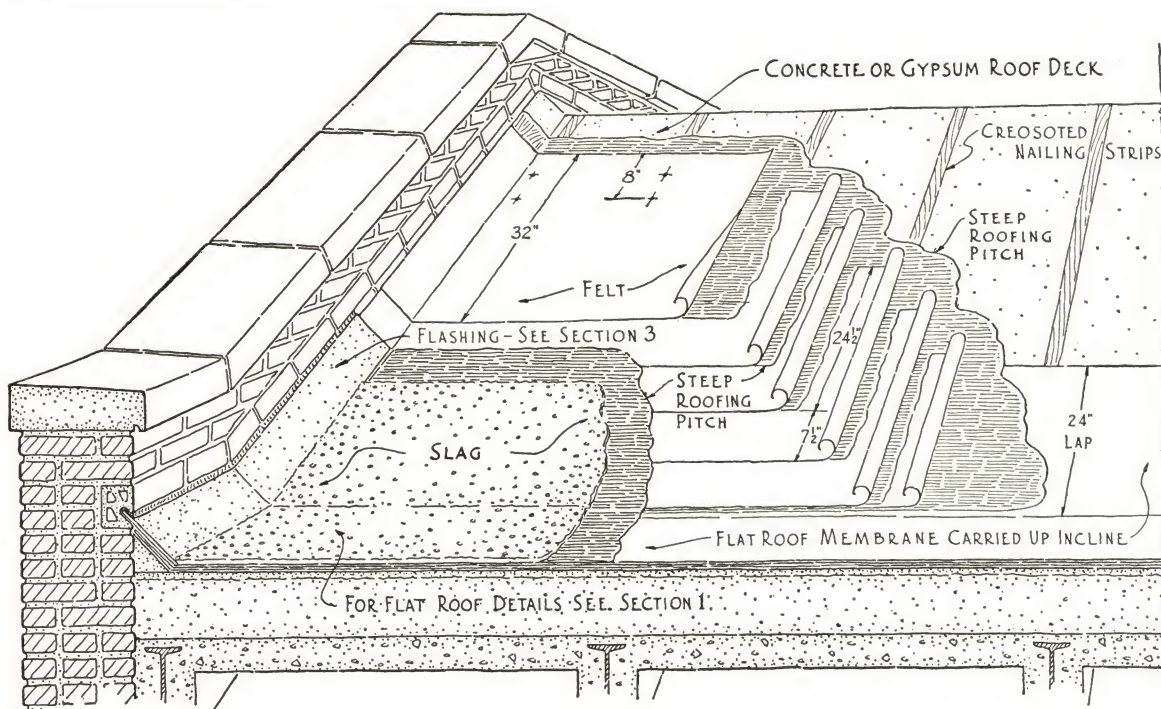
(b) That the flat roof area shall be covered with a Barrett Specification Type "A" or Type "AA" roof.



METHOD OF STARTING AT EAVES

BARRETT SPECIAL STEEP ROOFS

**FOR USE OVER — Poured Concrete or Poured Gypsum.
INCLINE — Over 2" and not exceeding 6" to 1'-0".
Bonded for 20 Years — 4 Ply Construction.**



20 YEAR BOND BARRETT SPECIAL STEEP ROOF

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Special Steep Roof, and shall be laid in accordance with the Barrett Specification, for use over poured concrete or gypsum on steep surfaces by a roofing contractor approved by THE BARRETT COMPANY. The roofing contractor shall furnish THE BARRETT COMPANY'S Surety Bond Guaranty for twenty (20) years from date of completion, in accordance with Note No. 1 of said specification.

COMPLETE SPECIFICATION

PREPARATION OF DECK—The roof deck shall be smooth, firm, dry and free from loose material. The concrete or gypsum shall permit of nailing, or creosoted wooden nailing strips shall be provided. Where nailing strips are provided, they shall be laid parallel with the incline of the roof and shall be spaced not more than three (3) feet apart.

APPLICATION OF ROOFING—First—Coat the roof deck uniformly with Barrett Steep Roofing Pitch.

Second—Over the entire surface lay four (4) plies of Barrett Specification Tarred Felt at right angles to the incline of the roof, lapping each sheet twenty-four and one-half (24½) inches over preceding one. Each sheet shall be nailed with one (1) inch barbed roofing nails through flat tin discs, eight (8) inches from the upper edge, and nails shall be spaced not more than one (1) foot apart. Where nailing strips are used, the Felt shall be nailed with two (2) nails through flat tin discs (at each nailing strip) placed six (6) inches and eight (8) inches respectively from the upper edge of each sheet.

Third—Mop back on each sheet the full distance of the twenty-four and one-half (24½) inch lap with Barrett Steep Roofing Pitch. The Felt shall follow and shall be firmly embedded into the hot moppings as applied. Care shall be taken that pitch moppings are even with lower edge of each overlying sheet and that the finished Felt surface is clean and free from Pitch drizzle.

Fourth—Over the entire surface spread with a mop a uniform coating of Barrett Steep Roofing Pitch, into which, while hot, firmly embed not less than two hundred and fifty (250) pounds of slag for each one hundred (100) square feet of finished roofing. The slag shall be from one-quarter (¼) to five-eighths (⅝) inch in size, shall be dry and free from dirt, and shall be embedded into the surface mopping immediately. If roofing is applied during cool weather,

or slag is damp, slag shall be heated and dried, so that it is warm when applied to the roof. The slag surfacing shall be continuous, and shall cover and shall be firmly embedded in the surface coating.

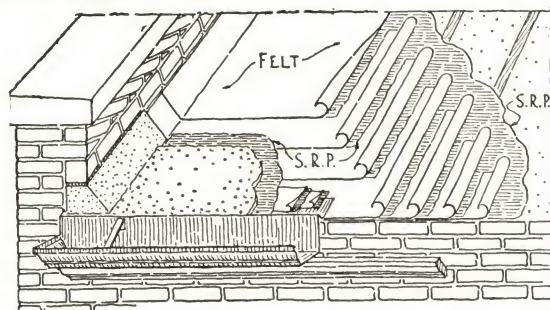
GENERAL—Felt shall be laid without wrinkles or buckles. Not less than one hundred (100) pounds of Pitch shall be used for constructing the membrane and not less than fifty (50) pounds nor more than sixty (60) pounds of Pitch shall be used for embedding the slag in constructing each one hundred (100) square feet of completed roof. The Pitch shall not be heated above four hundred (400) degrees Fahrenheit and shall not be applied to the roof below three hundred and fifty (350) degrees Fahrenheit.

Where steep roofs join flat roofs, the roofing on the flat surfaces shall be carried up the inclined surfaces not less than twenty-four (24) inches before the application of the Steep Roofing.

The roof shall be applied by a roofing contractor approved by THE BARRETT COMPANY. He shall furnish THE BARRETT COMPANY'S Surety Bond Guaranty issued by the U. S. Fidelity & Guaranty Company of Baltimore, covering a period of twenty (20) years from date of completion in accordance with Note No. 1.

Note No. 1—THE BARRETT COMPANY will issue its Guaranty Bond on jobs in the United States and Canada, where its inspection service is available, provided the roof is applied by a roofing contractor approved by THE BARRETT COMPANY in strict accordance with the above specification, and subject to Barrett inspection and approval under the following conditions:

- That the steep roof area be roofed in conjunction with flat roof area.
- That the flat roof area shall be covered with a Barrett Specification Type "AA" or Type "A" roof.

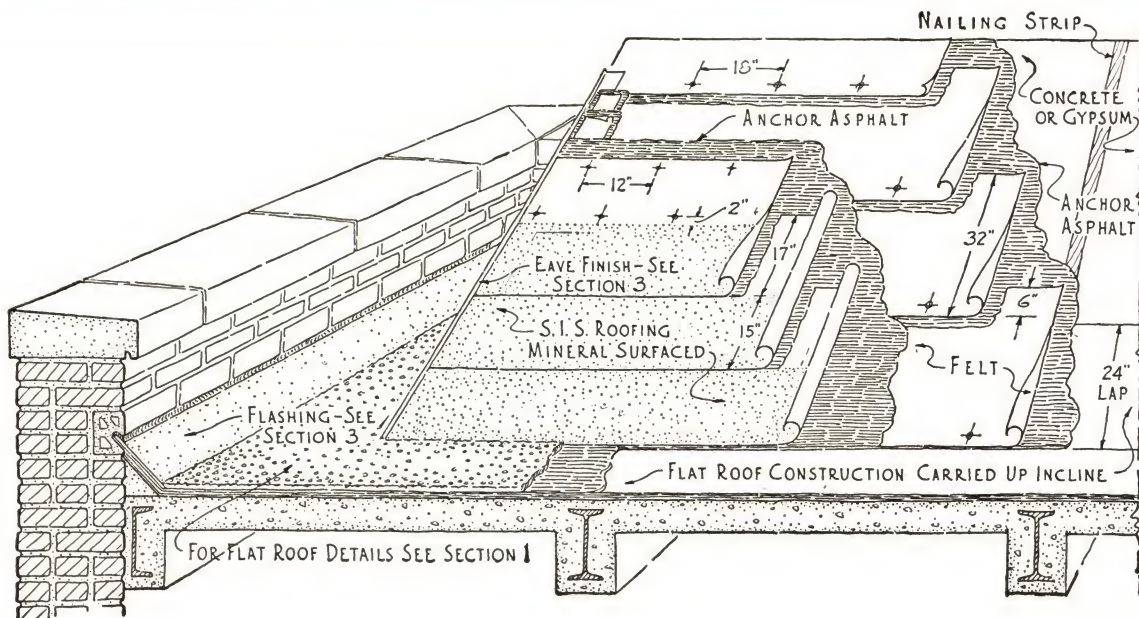


METHOD OF STARTING AT EAVES

**FOR USE OVER—Poured Concrete or Poured Gypsum.
INCLINE—Exceeding 4" to 1'-0".
TYPE S.I.S.—Bonded for 10 Years.**

Barrett

SINCE
1854



10 YEAR BOND BARRETT SPECIAL STEEP ROOF

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Special Steep Roof, Type S. I. S., laid in accordance with the Barrett Specification (for use over poured concrete or gypsum) by a roofing contractor approved by THE BARRETT COMPANY. The roofing contractor shall furnish THE BARRETT COMPANY'S Surety Bond Guaranty for ten (10) years from date of completion, in accordance with Note No. 1 of said specification.

COMPLETE SPECIFICATION

PREPARATION OF DECK—The roof deck shall be smooth, firm, dry and free from loose material. The concrete or gypsum shall permit of nailing, or creosoted wooden nailing strips shall be provided. If nailing strips are provided, they shall be laid parallel with the incline of the roof and shall be spaced not more than three (3) feet apart.

APPLICATION OF ROOFING—First—The surface of the roof deck shall be given a priming coat of Barrett Crystal Asphalt Primer. The priming coat shall be allowed to dry for not less than six (6) hours before the application of the roofing.

Second—Over the roof deck spread with a mop a uniform coating of Barrett Anchor Brand Roofing Asphalt, into which, while hot, shall be immediately embedded one (1) ply of Barrett Specification Tarred Felt, laid at right angles to the incline of the roof, lapping each sheet six (6) inches over preceding one. The six (6) inch overlap shall be thoroughly cemented together with Barrett Anchor Brand Roofing Asphalt. The Felt shall be nailed two (2) inches from the lower edge of each sheet, with barbed roofing nails through flat tin discs, spaced not more than eighteen (18) inches apart.

Third—Over the entire surface spread a uniform, mopped coating of Barrett Anchor Brand Roofing Asphalt, into which, while hot, shall be immediately rolled Barrett S. I. S. Roofing laid at right angles to incline of roof, lapping the sheets the full width of the seventeen (17) inch selvage. All sheets of S. I. S. Roofing shall be securely fastened in place with a double course of one (1) inch barbed roofing nails driven through flat tin discs, and placed along the selvage side of sheet. Nailing courses to be staggered and nails spaced not more than twelve (12) inches apart. Lower nailing course shall be held back two (2) inches from the mineral surfacing.

Fourth—Spread over the entire surface of the seventeen (17) inch selvage, a uniform mopping of Barrett Anchor Brand Roofing Asphalt or S. I. S. cement into which shall be immediately rolled the following sheet of S. I. S. Roofing.

Fifth—All end laps shall be over-lapped at least six (6) inches. The underlying sheet of each end lap shall be nailed along end of sheet with six (6) nails through flat tin discs spaced evenly. The six (6) inch lap shall be coated with Barrett Anchor Brand Roofing Asphalt or S. I. S. cement and the overlapping sheet thoroughly pressed down.

Sixth—S. I. S. Roofing shall be cut in strips not to exceed twenty (20) feet in length and shall be stacked flat in piles at least twenty-four (24) hours before using.

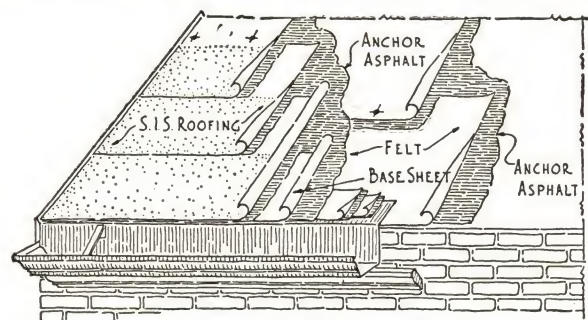
GENERAL—The Felt and S. I. S. Roofing shall be laid without wrinkles or buckles. Not less than thirty (30) pounds of Anchor Asphalt per mopping or two (2) gallons of S. I. S. cement shall be used per one hundred (100) square feet of completed roofing. Where steep roofs join flat roofs, the roofing on the flat surfaces shall be carried up the inclined surfaces not less than twenty-four (24) inches before the application of the steep roofing.

The roof shall be applied by a roofing contractor approved by THE BARRETT COMPANY. He shall furnish THE BARRETT COMPANY'S Surety Bond Guaranty issued by the U. S. Fidelity & Guaranty Company of Baltimore, covering a period of ten (10) years from date of completion.

Note No. 1—THE BARRETT COMPANY will give its Guaranty Bond on jobs in the United States and Canada where its inspection service is available, provided the roof is applied by a roofing contractor approved by THE BARRETT COMPANY in strict accordance with the above specification, and subject to Barrett inspection and approval under the following conditions:

(a) That the steep roof area shall be roofed in conjunction with the flat roof area.

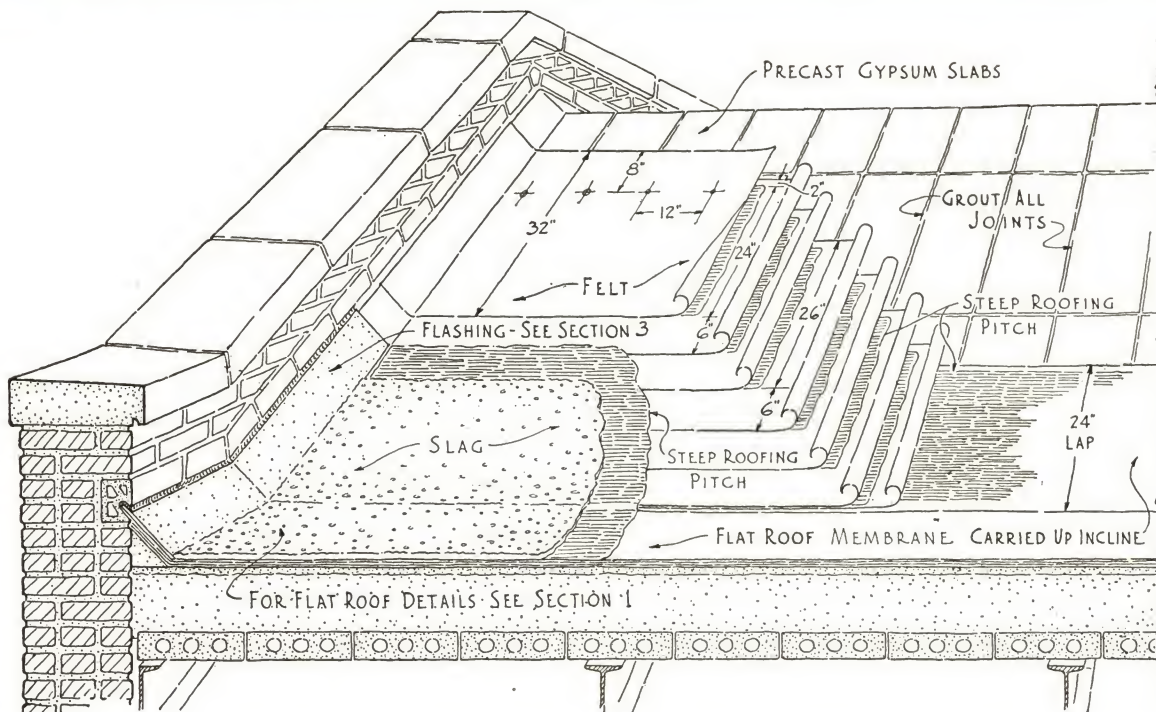
(b) That the flat roof area shall be covered with a Barrett Specification, Type "A" or Type "AA" roof.



METHOD OF STARTING AT EAVES

BARRETT SPECIAL STEEP ROOFS

**FOR USE OVER—Precast Concrete and
Precast Gypsum Slabs.**
INCLINE—Over 2" and not exceeding 6" to 1'-0".
Bonded for 20 Years—5 Ply Construction.



20 YEAR BOND BARRETT SPECIAL STEEP ROOF

For Precast Concrete Slab Decks, provision shall be made for Nailing Strips set parallel with incline of roof and spaced not more than three (3) feet apart.

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Special Steep Roof, and shall be laid in accordance with the Barrett Specification for use over precast gypsum or concrete slabs over steep surfaces, by a roofing contractor approved by THE BARRETT COMPANY. The roofing contractor shall furnish THE BARRETT COMPANY's Surety Bond Guaranty for twenty (20) years from date of completion, in accordance with Note No. 1 of said specification.

COMPLETE SPECIFICATION

PREPARATION OF DECK—All joints between precast gypsum or concrete slabs shall be fully grouted. The roof deck shall be smooth, firm, dry and free from loose material.

APPLICATION OF ROOFING—First—Over the entire surface lay five (5) plies of Barrett Specification Tarred Felt at right angles to the incline of the roof, lapping each sheet twenty-six (26) inches over preceding one. Each sheet shall be nailed with one and one-half (1½) inch barbed roofing nails, through flat tin discs, eight (8) inches from the upper edge, nails to be spaced not more than one (1) foot apart.

Second—Mop back on each sheet for a distance of twenty-four (24) inches with Barrett Steep Roofing Pitch. The Felt shall follow and shall be firmly embedded into the hot moppings as applied. Care shall be taken that pitch moppings are even with lower edge of each overlying sheet, and that the finished Felt surface shall be free of drippage.

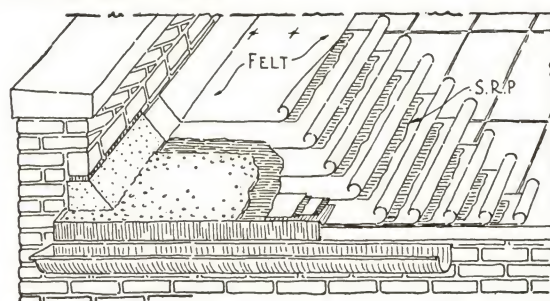
Third—Over the entire surface spread with a mop a uniform coating of Barrett Steep Roofing Pitch, into which, while hot, firmly embed not less than two hundred and fifty (250) pounds of slag for each one hundred (100) square feet of finished roofing. The slag shall be from one quarter (¼) to five-eighths (⅝) inch in size, shall be dry and free from dirt, and shall be embedded into the surface mopping immediately. If roofing is applied during cool weather, or slag is damp, slag shall be heated and dried, so that it is warm when applied to the roof. The slag surfacing shall be continuous, and shall cover and shall be firmly embedded into the surface coating.

GENERAL—Felt shall be laid without wrinkles or buckles. Not less than eighty (80) pounds of Pitch shall be used for constructing the membrane, and not less than fifty (50) nor more than sixty (60) pounds of Pitch shall be used for embedding the slag in constructing each one hundred (100) square feet of completed roof. The Pitch shall not be heated above four hundred (400) degrees Fahrenheit nor shall it be applied to the roof below three hundred and fifty (350) degrees Fahrenheit.

Where steep roofs join flat roofs, the roofing on the flat surfaces shall be carried up the inclined surfaces not less than twenty-four (24) inches before the application of the steep roofing. The roof shall be applied by a roofing contractor approved by THE BARRETT COMPANY. He shall furnish THE BARRETT COMPANY's Surety Bond Guaranty issued by the U. S. Fidelity and Guaranty Company of Baltimore, covering a period of twenty (20) years from date of completion in accordance with Note No. 1.

Note No. 1—THE BARRETT COMPANY will issue its Guaranty Bond on jobs in the United States, where its inspection service is available, provided the roof is applied by a roofing contractor approved by THE BARRETT COMPANY in strict accordance with the above specification, and subject to Barrett inspection and approval under the following conditions:

- (a) That the steep roof area shall be roofed in conjunction with the flat roof area.
- (b) That the flat roof area shall be covered with a Barrett Specification Type "AA" or Type "A" roof.

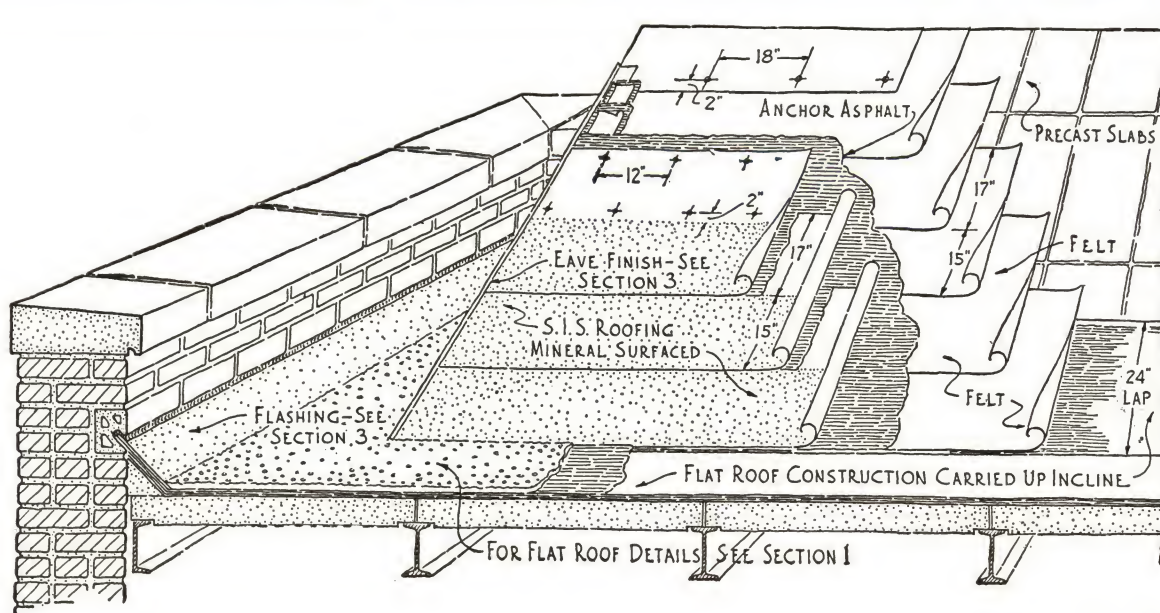


METHOD OF STARTING AT EAVES

**FOR USE OVER—Precast Concrete and
Precast Gypsum Slabs.
INCLINE—Exceeding 4" to 1'-0".
TYPE S.I.S.—Bonded for 10 Years.**

Barrett

SINCE
1854



10 YEAR BOND BARRETT SPECIAL STEEP ROOF

For Precast Concrete Slab Decks, provision shall be made for Nailing Strips set parallel with incline of roof and spaced not more than three (3) feet apart.

CONDENSED SPECIFICATION

ROOFING—Shall be a Barrett Special Steep Roof, Type S. I. S., laid in accordance with the Barrett Specification (for use over precast concrete or pre-cast gypsum slabs), by a roofing contractor approved by THE BARRETT COMPANY. The roofing contractor shall furnish THE BARRETT COMPANY's Surety Bond Guaranty for ten (10) years from date of completion, in accordance with Note 1 of said specification.

COMPLETE SPECIFICATION

PREPARATION OF DECK—All joints between precast gypsum slabs shall be properly grouted. The roof deck shall be smooth, firm, dry and free from loose material. The gypsum or concrete shall permit of nailing or creosoted wooden nailing strips shall be provided. If nailing strips are provided, they shall be parallel with the incline of the roof and spaced not more than three (3) feet apart.

APPLICATION OF ROOFING—First—Over the entire surface lay two (2) plies of Barrett Specification Tarred Felt at right angles to the incline of roof, lapping each sheet seventeen (17) inches over preceding one. Each sheet shall be nailed two (2) inches from lower edge with barbed roofing nails, through flat tin discs, spaced not more than eighteen (18) inches.

Second—Over the entire surface spread with a mop a uniform coating of Barrett Anchor Brand Roofing Asphalt, into which, while hot, shall be immediately rolled Barrett S. I. S. Roofing laid at right angles to the incline of the roof, lapping the sheets the full width of the seventeen (17) inch selvage. All sheets of Barrett S. I. S. Roofing shall be securely fastened in place with a double course of one and one-half (1½) inch barbed roofing nails driven through flat tin discs, and placed along the selvage side of the sheet. Nailing courses to be staggered and nails to be spaced not more than twelve (12) inches apart. The lower nailing course shall be held back two (2) inches from the mineral surfacing.

Third—Spread over the entire surface of the seventeen (17) inch selvage a uniform mopping of Barrett Anchor Brand Roofing Asphalt or S. I. S. cement, into which, shall be immediately rolled the following sheet of Barrett S. I. S. Roofing.

Fourth—All end laps shall be over-lapped at least six (6) inches. The underlying sheet of each end lap shall be nailed with six (6) nails through flat tin discs spaced five (5) inches apart starting

one (1) inch from the lower edge of the sheet. The six (6) inch lap shall be coated with Barrett Anchor Brand Roofing Asphalt or S. I. S. cement and the over-lapping sheet thoroughly pressed down.

Fifth—The Barrett S. I. S. Roofing shall be cut in strips not to exceed twenty (20) feet in length and shall be stacked flat in piles at least twenty-four (24) hours before using.

GENERAL—The felt and S. I. S. Roofing shall be laid without wrinkles or buckles. Not less than thirty (30) pounds of Anchor Asphalt per mopping or two (2) gallons of S. I. S. cement shall be used per one hundred (100) square feet of completed roofing.

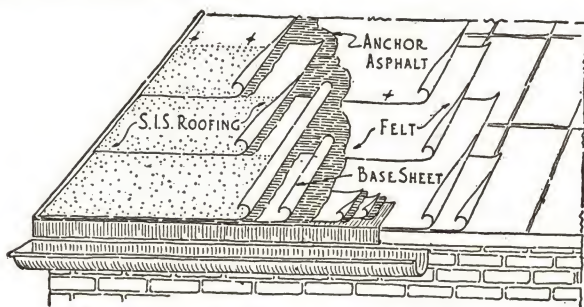
Where steep roofs join flat roofs, the roofing on the flat surfaces shall be carried up the inclined surfaces not less than twenty-four (24) inches before the application of the steep roofing.

The roof shall be applied by a roofing contractor approved by THE BARRETT COMPANY. He shall furnish THE BARRETT COMPANY's Surety Bond Guaranty issued by the U. S. Fidelity & Guaranty Co. of Baltimore, covering a period of ten (10) years from date of completion.

Note No. 1—THE BARRETT COMPANY will give its Guaranty Bond on jobs in the United States and Canada where its inspection service is available, provided the roof is applied by a roofing contractor approved by THE BARRETT COMPANY in strict accordance with the above specification, and subject to Barrett inspection and approval under the following conditions:

(a) That the steep roof area shall be roofed in conjunction with the flat roof area.

(b) That the flat roof area shall be covered with a Barrett Specification Type "A" or Type "AA" Roof.



METHOD OF STARTING AT EAVES

BARRETT SPECIAL STEEP ROOFS

ROOF CONSTRUCTION DATA

Flat Roofs

Steep Roofs

RISE OR INCLINE OF ROOFS PER FOOT; INCREASED AREA PER SQUARE FOOT OF STEEP ROOFS OVER FLAT ROOFS

Classification	Incline			Inclined Area Per Sq. Foot Horizontal Area	Percentage Increase In Area Over Flat Roof
	Inch Per Foot Horizontal	Angle With Horizontal	Fractional Factor		
Flat Roofs	1/8	0°-36'		1.000	0.0
	1/4	1°-12'		1.000	0.0
	3/8	1°-47'		1.000	0.0
	1/2	2°-23'	1/48	1.001	0.1
	5/8	2°-59'		1.001	0.1
	3/4	3°-35'	1/32	1.002	0.2
	1	4°-46'	1/24	1.003	0.3
	1 1/8	5°-21'		1.004	0.4
	1 1/4	5°-57'		1.005	0.5
	1 1/2	7°-8'	1/16	1.008	0.8
	1 3/4	8°-18'		1.011	1.1
	2	9°-28'	1/12	1.014	1.4
Steep Roofs	2 1/4	10°-37'		1.017	1.7
	2 1/2	11°-46'		1.021	2.1
	2 3/4	12°-54'		1.026	2.6
	3	14°-2'	1/8	1.031	3.1
	3 1/4	15°-9'		1.036	3.6
	3 1/2	16°-16'		1.042	4.2
	3 3/4	17°-21'		1.048	4.8
	4	18°-26'	1/6	1.054	5.4
	4 1/4	19°-30'		1.061	6.1
	4 1/2	20°-34'		1.068	6.8
	5	22°-37'		1.083	8.3
	6	26°-34'	1/4	1.118	11.8
	7	30°-16'		1.158	15.8
	8	33°-42'	1/3	1.202	20.2
	9	36°-52'		1.250	25.0
	10	39°-48'		1.302	30.2
	11	42°-31'		1.356	35.6
	12	45°-0'	1/2	1.414	41.4
Extra Steep Roofs	14	49°-24'		1.537	53.7
	16	53°-8'		1.667	66.7
	18	56°-19'		1.803	80.3
	20	59°-2'		1.943	94.3
	22	61°-23'		2.088	108.8
	24	63°-26'	1	2.235	123.5



SECTION 3

BARRETT ROOF and SPANDREL FLASHINGS

THE MOST VULNERABLE PART IN ANY ROOF

Purpose

The prevention of seepage or leaks at masonry walls of the modern building is a serious problem confronting every architect, engineer and builder.

These troubles are frequently traced to faulty flashing construction. Low spots where snow, ice, and rain water concentrate, are usually found along parapet walls, curbs, or other places where flashings are installed. Inadequate or faulty construction at these vital points opens the way to troublesome leaks and costly repairs.

Barrett Bonded Flashings

The Barrett system of flashing is considered a component part of the roof construction. The waterproof membrane is definitely tied in with the parapet wall by means of the flashing block. This part of the roof is reinforced, the added protection actually making it the strongest part of the roof. The flashing is flexible, and permits of movement occasioned by settlement of the deck, or by expansion and contraction in materials.

Eliminates Divided Responsibility

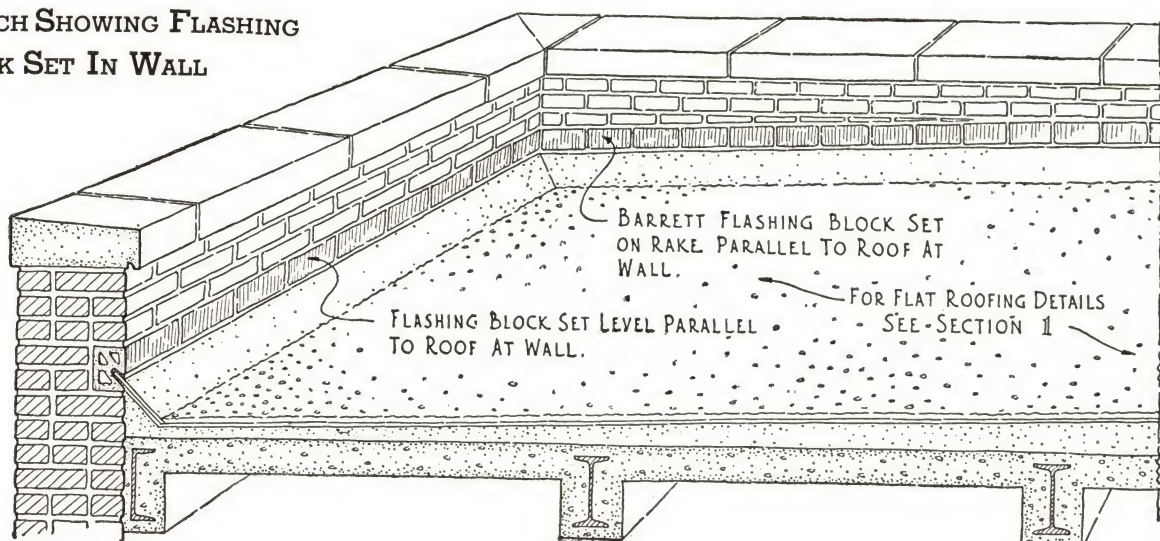
The Barrett system, used in conjunction with Barrett Specification Roofs, definitely eliminates troublesome flashing leaks at parapets, curbs, chimneys, fire-walls, etc. The responsibility for the complete roof, including flashing construction, rests with the Barrett approved roofer. The flashing is installed by the roofing contractor at the same time he applies the roofing, and its performance is fully covered in the guaranty bond.

A Good Roof Deserves Good Flashings

Good flashings promote the serviceability of good roofs. The Barrett flashing system, developed after years of practical experience, is a worthy companion to Barrett Specification Roofs. Time-tried under every conceivable condition, it is accepted generally as a standard type of construction for both flat and steep built-up roofs.

METHOD OF INSTALLING BARRETT FLASHING BLOCK IN BRICK WALLS

SKETCH SHOWING FLASHING
BLOCK SET IN WALL



SPECIFICATION FOR INSTALLATION WITH VARIOUS TYPES OF ROOF DECKS

FOR MASONRY—Barrett Flashing Block shall be built into walls with the base of the block set five (5) inches above and parallel with the finished grade line of the roof at wall.

Blocks shall be laid in true alignment, set in Portland Cement Mortar, and joints shall be properly pointed. All end joints shall be solid mortar joints.

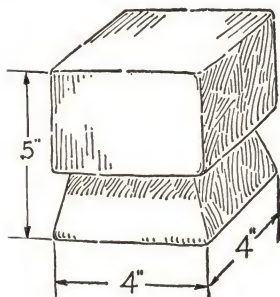
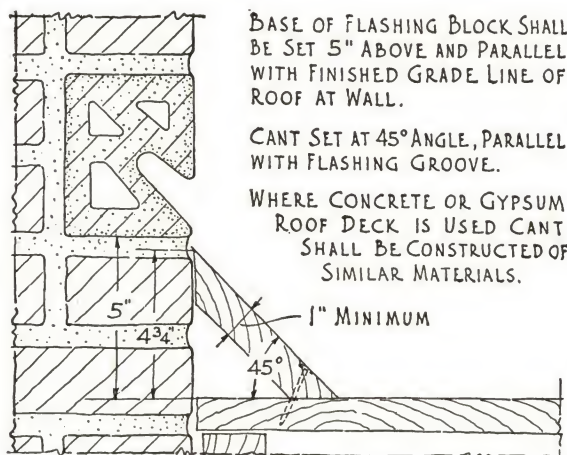
The flashing groove of the blocks shall be thoroughly cleaned of all surplus mortar.

Note—Special blocks are manufactured for use at right angle external and internal wall corners.

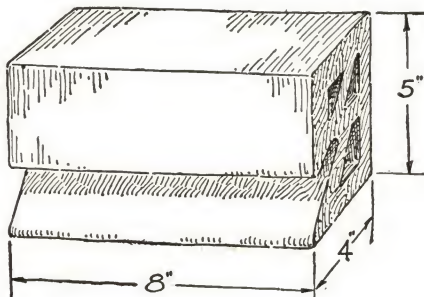
For Concrete or Gypsum Roof Deck—At angle of roof deck and the walls in which flashing block has been installed, provide a concrete cant that will permit of nailing, the upper edge of which shall terminate one-quarter ($\frac{1}{4}$) inch below the flashing groove. The face of the cant shall have an incline of forty-five (45) degrees the same as the flashing groove in the block. The distance from the innermost end of flashing groove to bottom of cant strip shall not exceed ten (10) inches.

FOR CARPENTRY, BOARD ROOF DECK—At angle of roof deck and the walls in which flashing block has been installed, provide a wood cant at least one (1) inch thick, the upper edge of which shall terminate one-quarter ($\frac{1}{4}$) inch below the flashing groove.

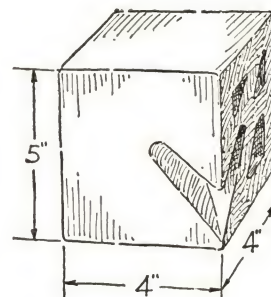
The face of the cant shall have an incline of forty-five (45) degrees, the same as the flashing groove in the block. The cant shall be securely fastened to the roof deck. The distance from the innermost end of flashing groove to bottom of cant strip shall not exceed ten (10) inches.



OUTSIDE CORNER



STRAIGHT FLASHING BLOCK



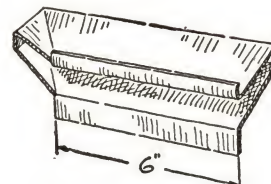
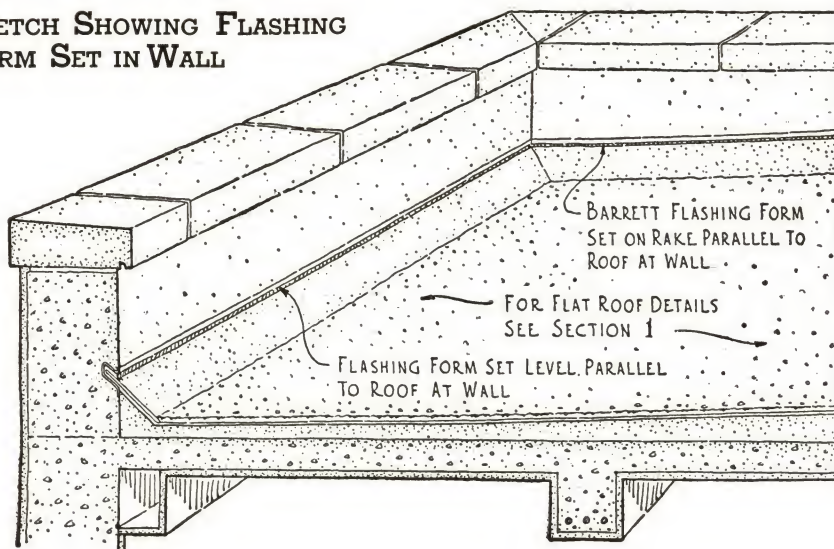
INSIDE CORNER

METHOD OF INSTALLING BARRETT FLASHING FORM IN CONCRETE WALLS

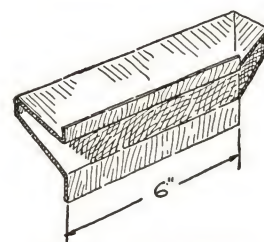
Barrett

SINCE
1854

SKETCH SHOWING FLASHING
FORM SET IN WALL



INSIDE RETURN
LEFT HAND



INSIDE RETURN
RIGHT HAND

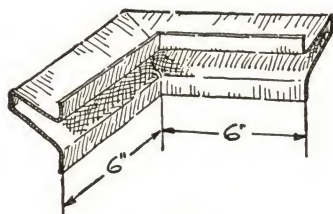
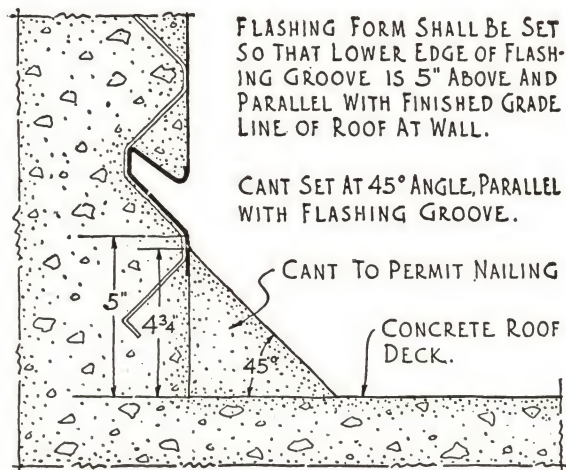
SPECIFICATION FOR INSTALLATION WITH CONCRETE ROOF DECKS

FOR CONCRETE—Barrett Flashing Form shall be attached to the inside of the wall form by means of metal strap brackets (so provided) spaced not more than two (2) feet apart and secured by one (1) inch smooth wire nails.

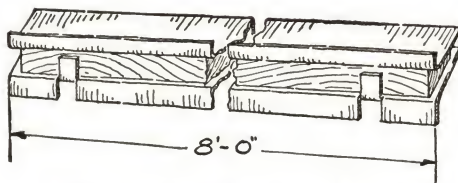
Barrett Flashing Form shall be set so that the lower edge of the flashing groove is five (5) inches above and parallel with the finished grade line of the roof at wall.

Note—Special mitred flashing forms are manufactured for use at right angle external and internal wall corners.

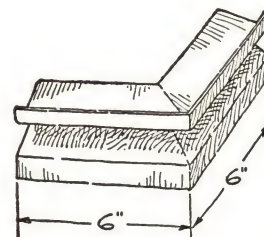
At angle of roof deck and the wall in which flashing form has been installed, provide a concrete cant that will permit of nailing, the upper edge of which shall terminate one-quarter ($\frac{1}{4}$) inch below the flashing groove. The face of the cant shall have an incline of forty-five (45) degrees the same as the flashing groove in the block. The distance from the innermost end of flashing groove to bottom of cant strip shall not exceed ten (10) inches.



INSIDE CORNER

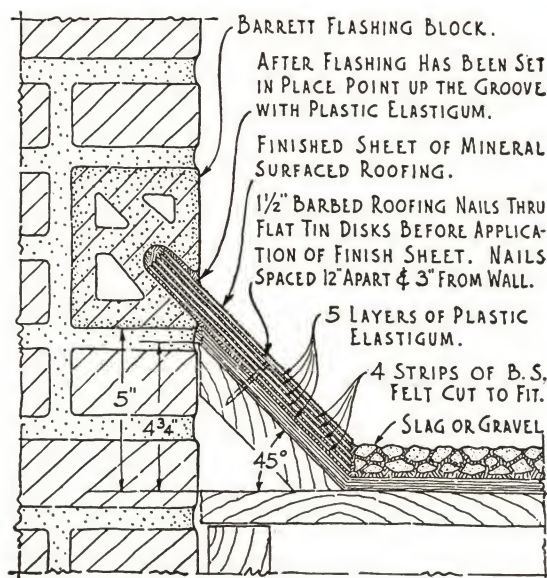


STRAIGHT FLASHING FORM

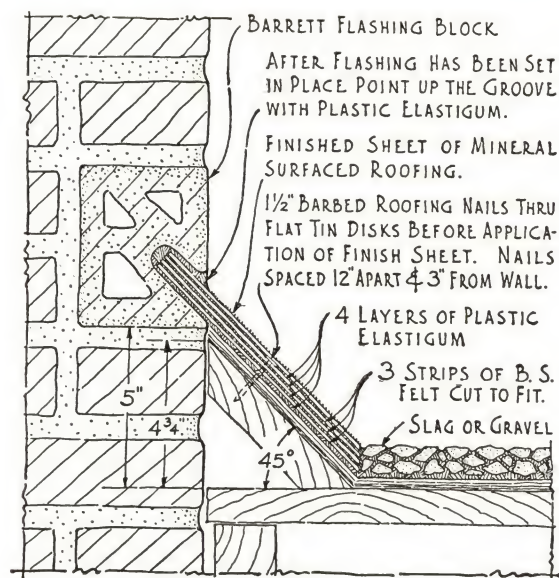


OUTSIDE CORNER

BARRETT FLASHING SYSTEM FOR BRICK WALLS TYPE "AA"—Bonded for 20 Years. TYPE "A"—Bonded for 15 Years.



**BLOCK TYPE
FOR BRICK WALLS
20 YEAR BOND**



**BLOCK TYPE
FOR BRICK WALLS
15 YEAR BOND**

20 YEAR BOND TYPE "AA" BARRETT FLASHING FOR BRICK WALLS

Note—This flashing shall be installed before gravel, slag, tile or other surfacing material is applied to the roof surface.

APPLICATION OF FLASHING—First—Before applying flashing material, the flashing groove shall be thoroughly cleaned of mortar or other foreign materials.

Second—The Felt and Pitch roofing shall be extended up the face of the cant to the wall line and cut off evenly at that point. The plies of Felt shall be solidly cemented together with Pitch and be free from wrinkles or buckles.

Third—Over the roofing, covering the cant, and up into the full depth of the flashing groove, apply a heavy uniform layer of Barrett Plastic Elastigum, into which embed one (1) ply of flashing strip, cut the proper width from a roll of Barrett Specification Felt. The sheets of the flashing strips shall be lapped one (1) inch and the strips shall extend into the full depth of the flashing groove. This operation shall be repeated until four (4) layers of Plastic Elastigum and four (4) plies of flashing strip have been applied. The fourth flashing strip shall be nailed every twelve (12) inches, three (3) inches from the wall with one and one-half (1 1/2) inch barbed roofing nails through flat tin discs. Each flashing strip shall be set in separately (not folded) and shall break joints with the underlying ply.

Fourth—Over the entire surface of the flashing strips thus laid, apply a uniform trowelled coating of Plastic Elastigum. Care shall be taken so that a liberal amount of Plastic Elastigum is placed along the opening of the flashing groove. Into the Plastic Elastigum embed immediately a layer of Barrett Everlastic Mineral Surfaced Roofing of the proper width, extending into the full depth of the groove and down to the roofing. The strips of Mineral Surfaced Roofing shall be cut from across the roll so that the end of each strip shall have a two (2) inch selvage. The two (2) inch selvage shall be coated with Plastic Elastigum and shall be over-lapped by the following sheet of Mineral Surfaced Roofing and thoroughly pressed down. The flashing groove shall then be pointed up with Plastic Elastigum.

Note No. 1—IMPORTANT—No projections such as vent pipes, conductor lines or braces shall be constructed through the flashing cant. All such projections shall be placed through roof deck at a point not less than ten (10) inches from the intersection of cant with roof deck.

Note No. 2—THE BARRETT COMPANY will give its Guaranty Bond on jobs in the United States and Canada where its inspection service is available, provided the flashing is installed in strict accordance with the above specification and subject to Barrett inspection and approval under the following condition: That the flashing shall be installed during the application of a Barrett Bonded Roof.

15 YEAR BOND TYPE "A" BARRETT FLASHING FOR BRICK WALLS

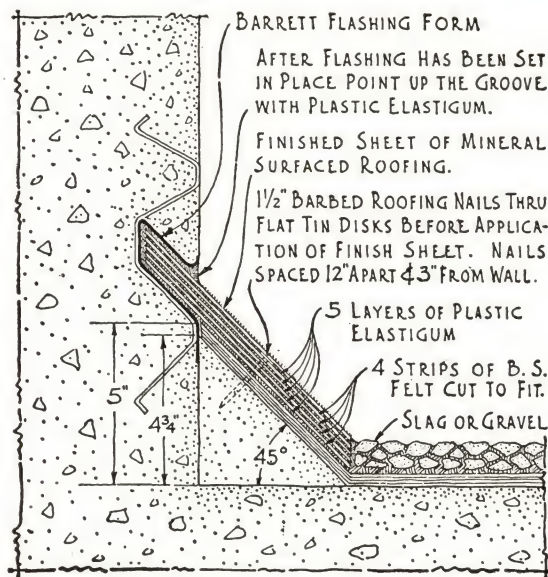
Same as above, except change the last half of paragraph headed "Third" as follows:

This operation shall be repeated until three (3) layers of Plastic Elastigum and three (3) plies of flashing strip have been applied. The third flashing strip shall be nailed every twelve (12) inches,

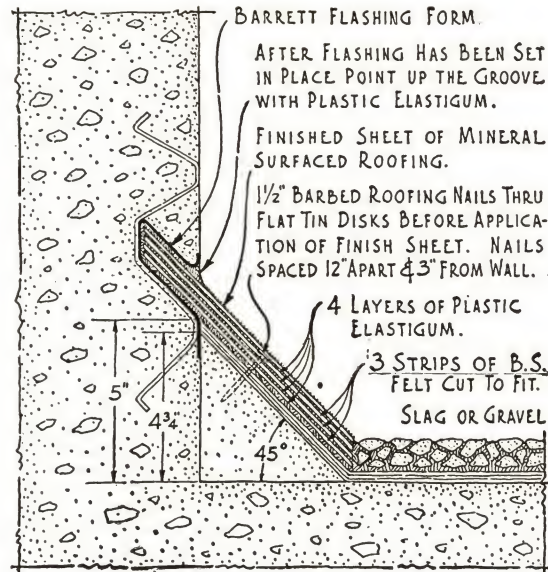
three (3) inches from the wall with one and one-half (1 1/2) inch barbed roofing nails through flat tin discs. Each flashing strip shall be set in separately (not folded) and shall break joints with the underlying ply.

BARRETT FLASHING SYSTEM FOR CONCRETE WALLS TYPE "AA"—Bonded for 20 Years. TYPE "A"—Bonded for 15 Years.

Barrett
SINCE
1854



**FORM TYPE
FOR CONCRETE WALLS
20 YEAR BOND**



**FORM TYPE
FOR CONCRETE WALLS
15 YEAR BOND**

20 YEAR BOND TYPE "AA" BARRETT FLASHING FOR CONCRETE WALLS

Note—This flashing shall be installed before gravel, slag, tile or other surfacing material is applied to the roof surface.

APPLICATION OF FLASHING—First—Before applying flashing material, the flashing groove shall be thoroughly cleaned of mortar or other foreign materials.

Second—The Felt and Pitch roofing shall be extended up the face of the cant to the wall line and cut off evenly at that point. The plies of Felt shall be solidly cemented together with Pitch and be free from wrinkles or buckles.

Third—Over the roofing, covering the cant, and up into the full depth of the flashing groove, apply a heavy uniform layer of Barrett Plastic Elastigum, into which embed one (1) ply of flashing strip, cut the proper width from a roll of Barrett Specification Felt. The sheets of the flashing strips shall be lapped one (1) inch and the strips shall extend into the full depth of the flashing groove. This operation shall be repeated until four (4) layers of Plastic Elastigum and four (4) plies of flashing strip have been applied. The fourth flashing strip shall be nailed every twelve (12) inches, three (3) inches from the wall with one and one-half (1 1/2) inch barbed roofing nails through flat tin discs. Each flashing strip shall be set in separately (not folded) and shall break joints with the underlying ply.

Fourth—Over the entire surface of the flashing strips thus laid, apply a uniform trowelled coating of Plastic Elastigum. Care shall be taken so that a liberal amount of Plastic Elastigum is placed along the opening of the flashing groove. Into the Plastic Elastigum embed immediately a layer of Barrett Everlastic Mineral Surfaced Roofing of the proper width, extending into the full depth of the groove and down to the roofing. The strips of Mineral Surfaced Roofing shall be cut from across the roll so that the end of each strip shall have a two (2) inch selvage. The two (2) inch selvage shall be coated with Plastic Elastigum and shall be over-lapped by the following sheet of Mineral Surfaced Roofing and thoroughly pressed down. The flashing groove shall then be pointed up with Plastic Elastigum.

Note No. 1—IMPORTANT—No projections such as vent pipes, conductor lines or braces shall be constructed through the flashing cant. All such projections shall be placed through roof deck at a point not less than ten (10) inches from the intersection of cant with roof deck.

Note No. 2—THE BARRETT COMPANY will give its Guaranty Bond on jobs in the United States and Canada where its inspection service is available, provided the flashing is installed in strict accordance with the above specification and subject to Barrett inspection and approval under the following condition: That the flashing shall be installed during the application of a Barrett Bonded Roof.

15 YEAR BOND TYPE "A" BARRETT FLASHING FOR CONCRETE WALLS

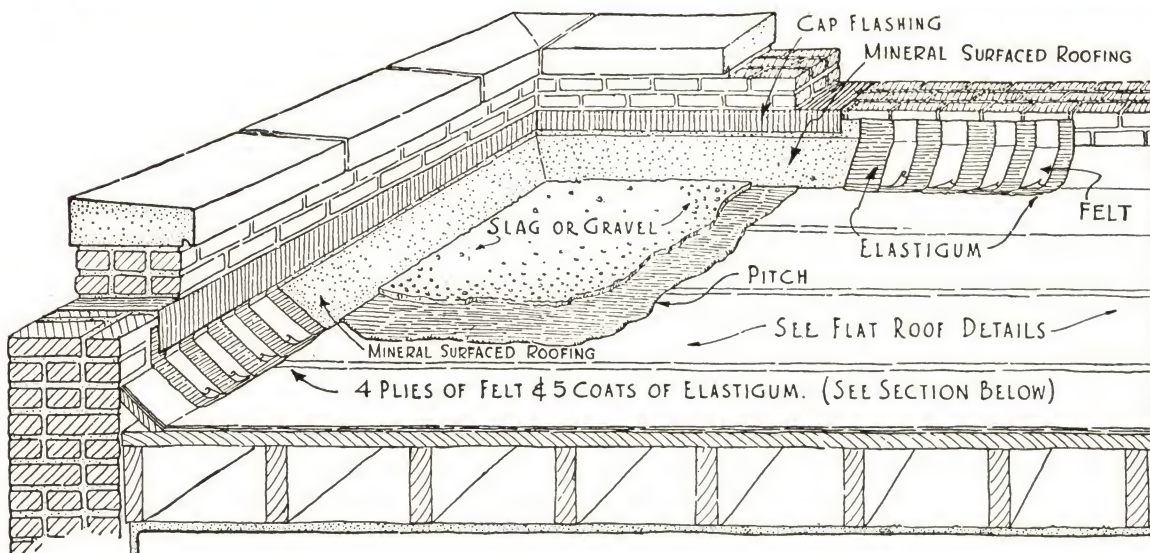
Same as above, except change the last half of paragraph headed "Third" as follows:

This operation shall be repeated until three (3) layers of Plastic Elastigum and three (3) plies of flashing strip have been applied. The third flashing strip shall be nailed every twelve (12) inches,

three (3) inches from the wall with one and one-half (1 1/2) inch barbed roofing nails through flat tin discs. Each flashing strip shall be set in separately (not folded) and shall break joints with the underlying ply.

BARRETT ROOF FLASHING SYSTEM

ALTERNATE TYPE "AA" FLASHINGS Using Bituminous Base and Metal Counter Flashings



BARRETT SPECIFICATION, ALTERNATE TYPE "AA" FLASHINGS

SPECIFICATIONS

Note—Flashing shall be installed before gravel, slag, tile or other surfacing material is applied to the roof surface.

BASE FLASHING

The felt and pitch roofing shall be extended up the face of a cant, placed five (5) inches above roof line and extending to the roof deck on an angle of 45°, up to the wall line and cut off evenly at that point. The membrane shall be laid evenly and without wrinkles or buckles.

Over the roofing membrane covering the cant, apply a heavy uniform layer of Barrett Plastic Elastigum into which embed one (1) ply of flashing strips cut the proper width from Barrett Specification Felt. The sheets of the flashing strips shall be lapped one (1) inch and the strips shall extend on to the vertical wall for a distance of one (1) inch above the top of the cant.

This operation shall be repeated until four (4) layers of Plastic Elastigum and four (4) plies of flashing strips have been applied, each flashing strip stepped above the preceding strip, and on the wall, so that the last strip is immediately below the metal counter-flashing where it enters the wall. Each flashing strip shall be set in separately and shall break joints with the underlying strip. The strips shall then be nailed to the cant, using one and one-half (1½) inch barbed roofing nails through flat tin discs spaced twelve (12) inches on center.

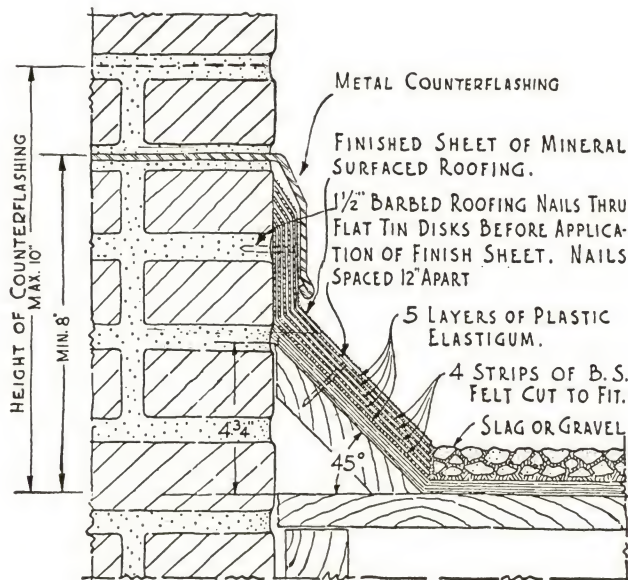
Over the entire surface of the flashing strip thus laid, apply a uniform trowel coat of Plastic Elastigum into which immediately embed a layer of Barrett Everlastic Mineral Surfaced Roofing of the proper width, extending from the base of the cant to immediately below where the metal counter-flashing enters the wall. The Mineral Surfaced Roofing shall be set in place firmly so that there are no buckles or loose sections. The strips of Mineral Surfaced Roofing shall be cut from across the roll so that the end of each strip shall have a two (2) inch selvage. The two (2) inch selvage shall be coated with Plastic Elastigum and shall be overlapped by the following sheet of Mineral Surfaced Roofing and thoroughly pressed down.

The base flashing shall then be nailed on eight (8) inch to twelve (12) inch centers at a point approximately two (2) inches below where the metal counter-flashing enters the wall, or in the mortar joints immediately below the joint into which the counter-flashing is set.

METAL COUNTER-FLASHING

The metal counter-flashing shall overlap the bituminous base flashing to the junction of wall and cant surface, so that all flashing strips and nails are completely counter-flashed with the metal cap.

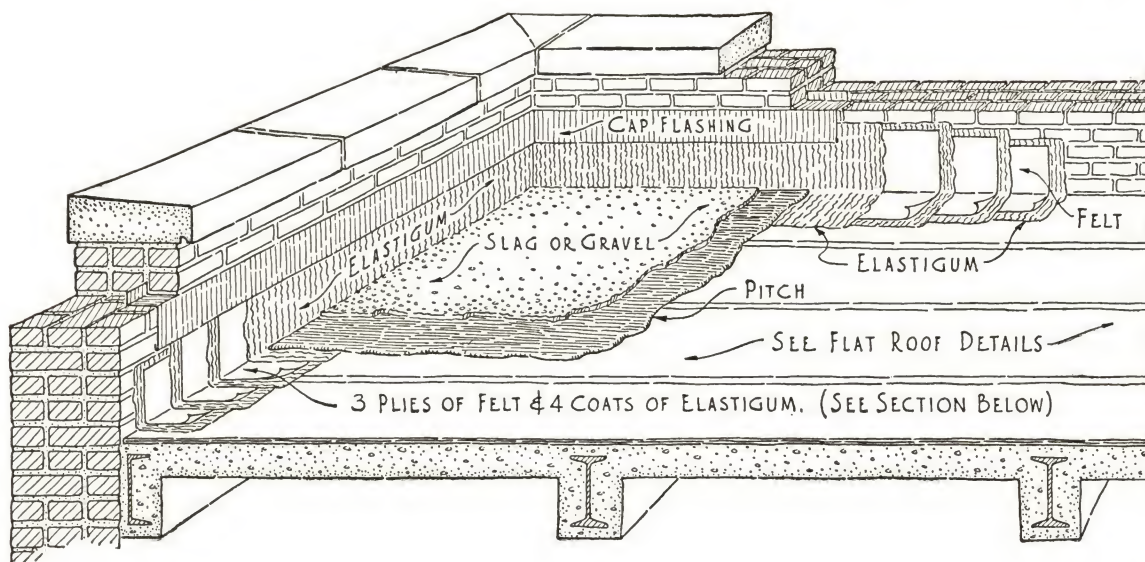
Note—No projections such as vent pipes, conductor lines or braces shall be constructed to the flashing cant. All such projections shall be placed thru roof deck at a point not less than ten (10) inches from the intersection of cant with roof deck, and shall be properly flashed.



PLASTIC ELASTIGUM FLASHINGS FOR BRICK OR CONCRETE WALLS. 10 Year Guaranty.

Barrett

SINCE
1854



10 YEAR BARRETT PLASTIC ELASTIGUM FLASHING FOR BRICK OR CONCRETE WALLS

Note—If the roofing is laid over a board deck, the first two (2) plies of Felt shall be turned up against perpendicular surfaces at least four (4) inches. If the roofing is laid over a concrete deck, all plies shall be cut off evenly at the angle of the roof deck and parapet walls.

APPLICATION OF FLASHING—First—After all plies of roofing have been laid and preceding the application of the slag or gravel surface, apply a uniform trowelled coating of Barrett Plastic Elastigum for a distance of ten (10) inches up the parapet wall and six (6) inches out on the roofing into which shall be immediately embedded a ten (10) inch strip of Barrett No. 15 Asphalt Felt extending up the wall six (6) inches and out on the roofing four (4) inches.

Second—This strip shall be coated with Barrett Plastic Elastigum. Then follow with a second strip of Barrett No. 15 Asphalt Felt thirteen (13) inches wide extending eight (8) inches up the wall and five (5) inches out on the roof.

Third—This strip shall be coated with Barrett Plastic Elastigum into which embed a third strip of Barrett No. 15 Asphalt Felt sixteen (16) inches wide, extending ten (10) inches up the wall and six (6) inches out on the roof.

Fourth—This strip shall be coated uniformly with Barrett Plastic Elastigum. Care shall be taken so that the top edge of the felt strips shall be pressed firmly against the masonry wall and the Plastic Elastigum feathered against it.

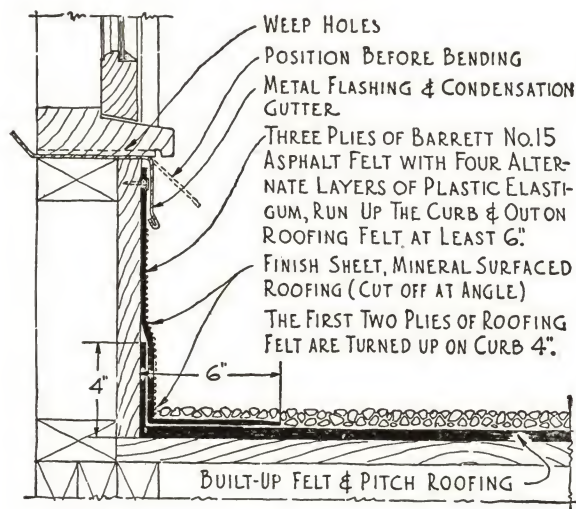
Felt strips shall not exceed ten (10) feet in length and shall be lapped at least one (1) inch and all joints broken so that each is covered by at least two (2) thicknesses of felt.

Where a cant is used, the width of the first sheet of felt installed shall be such that at least four (4) inches shall extend above top of the cant and four (4) inches out on the roof. Each succeeding strip shall follow the proportions, as specified above.

Note No. 1—THE BARRETT COMPANY will give its ten (10) year guaranty on jobs in the United States and Canada where its inspection service is available, provided the flashing is installed in strict accordance with the above specification and subject to Barrett inspection and approval under the following condition: That the flashing shall be installed during the application of a Barrett Bonded Roof.

Architect's Note—The use of a metal counter flashing with this type of installation is optional with Architect, and if desired should be covered in specifications.

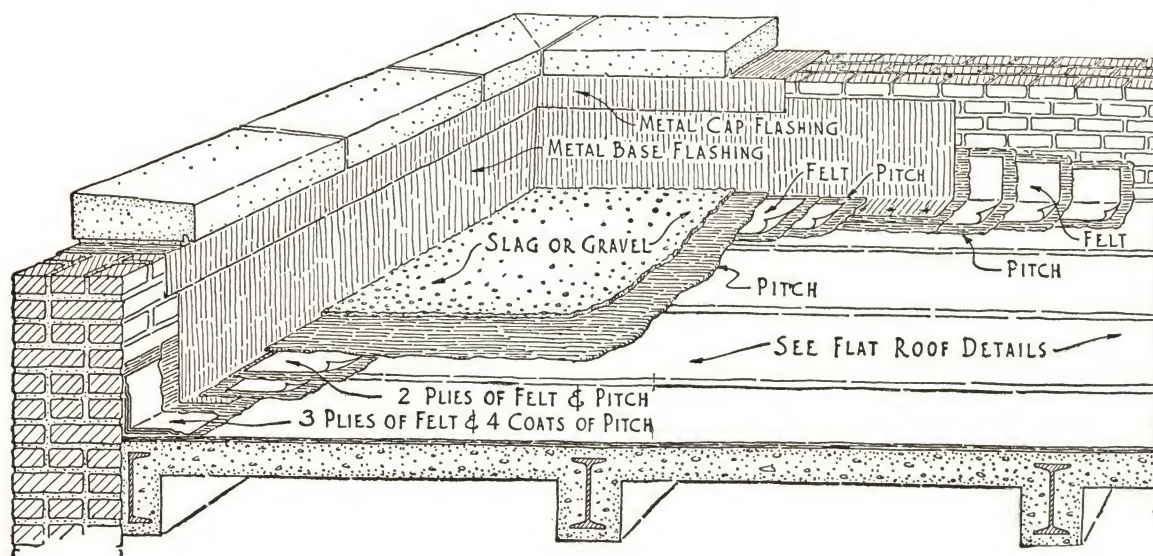
Where metal counter flashing is provided with this type of installation, and where specified, cap sheet of Barrett Everlastic Mineral Surfaced Roofing may be applied after Plastic Elastigum flashing has been installed in place. Cap sheet shall be cut off at roof line. End laps shall be at least two (2) inches, with under lap well fastened and coated with Plastic Elastigum.



DETAIL FOR CURB FLASHING

BARRETT ROOF FLASHING SYSTEM

DETAILS FOR INSTALLING METAL CAP AND BASE FLASHING FOR MASONRY WALLS



SPECIFICATION

Note—Architect or engineer shall specify and describe kind of metal to be used for flashing.

Metal flashings shall be installed at all parapet walls, curbs, pent houses and other vertical surfaces as shown on plans.

CAP FLASHINGS—(1)—All cap flashings shall be set into brick walls for a distance of four (4) inches and turned up one (1) inch behind the first course of brick and down the face of the wall overlapping the base flashing at least two (2) inches. End laps shall be at least two (2) inches and soldered.

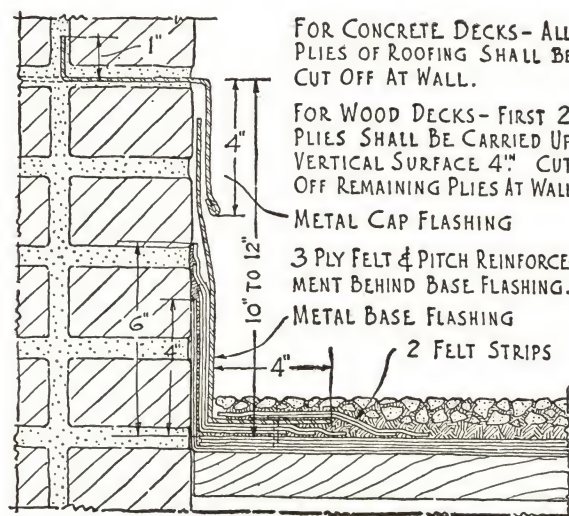
(2) **Alternate Specification—Architect's Note**—All cap flashings shall be set into brick walls and shall extend from inside face of wall to within one (1) inch of outside face, and down inside face of wall overlapping the base flashing at least two (2) inches. End laps shall be at least two (2) inches and soldered.

FELT AND PITCH REINFORCEMENT—After all plies of roofing have been laid, the roofing contractor shall set in separately, at the angle of the roof deck and vertical surface, three (3) plies of tarred felt cemented together with coal tar pitch. These plies shall extend out on the roofing at least four (4) inches and up the vertical surface six (6) inches. The last ply shall be coated with coal tar pitch. For roofing guaranteed for fifteen (15) years or less, a felt and pitch reinforcement of two (2) plies is sufficient.

BASE FLASHINGS—First—Over the felt and pitch reinforcement thus applied, the metal base flashing shall be set, extending out on the roof four (4) inches and up the vertical surface not less than ten (10) inches, nor more than twelve (12) inches. The base flashing shall be nailed to the roof deck with barbed roofing nails spaced not more than three (3) inches on centers on a line not exceeding three-quarters ($\frac{3}{4}$) of an inch from the outer edge of the metal. If concrete roof deck does not permit of nailing, a creosoted wood nailing strip at least one (1) inch thick, with two (2) inch face and three (3) inch base, shall be installed, centered on a line three (3) inches from the vertical surface.

Second—End laps shall be locked and soldered unless otherwise specified.

Third—The four (4) inches of metal on the roof shall be given a priming coat of Barrett Everjet paint. It shall then be coated with Coal Tar Pitch into which shall be immediately embedded a strip of tarred felt four (4) inches wide centered over the nailing course. The first strip shall be coated with Coal Tar Pitch into which shall be immediately embedded a second strip of tarred felt six (6) inches wide completely covering the first.

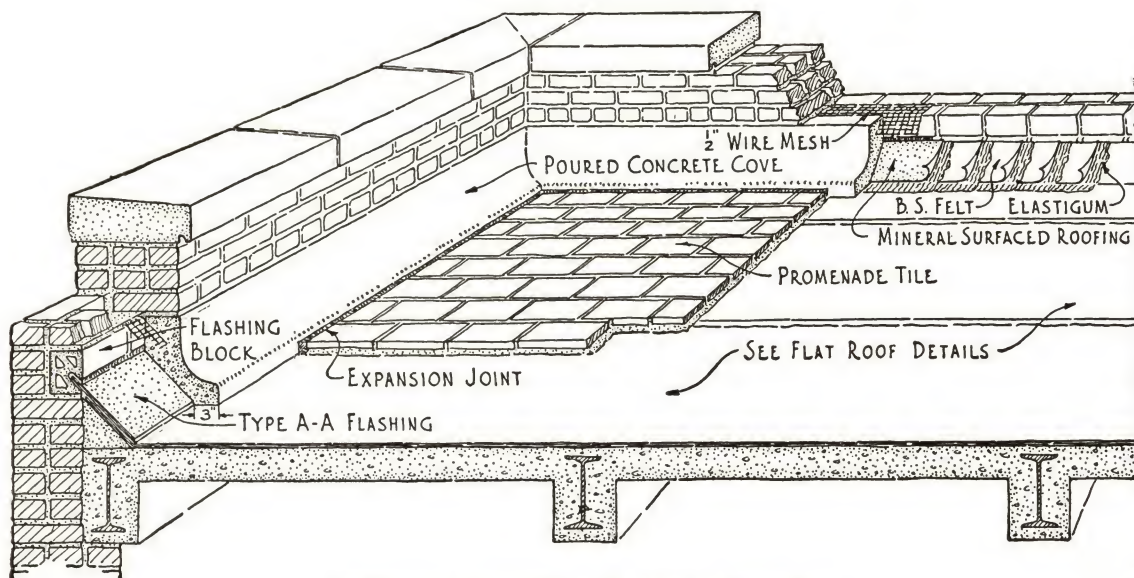


DETAIL FOR METAL CAP AND
BASE FLASHING

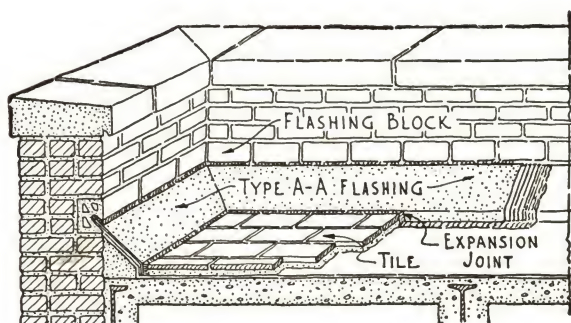
DETAILS FOR INSTALLING FLASHING IN CONNECTION WITH PROMENADE TILE ROOFS

Barrett

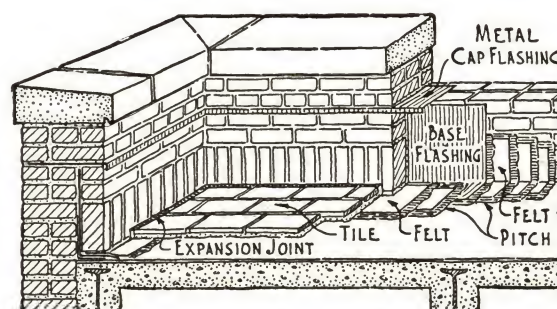
SINCE
1854



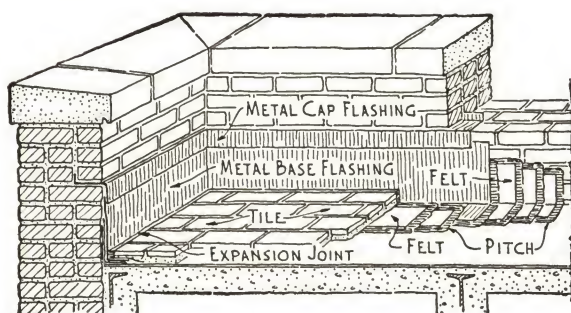
CONCEALED TYPE "A-A" FLASHING



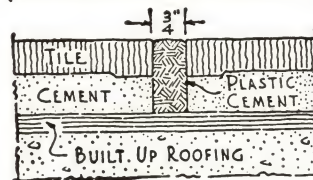
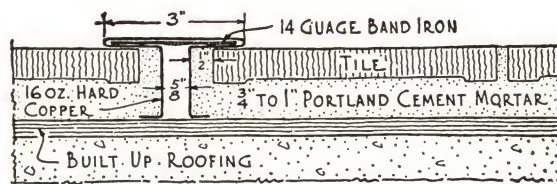
EXPOSED TYPE "A-A" FLASHING



CONCEALED METAL FLASHING



EXPOSED METAL FLASHING

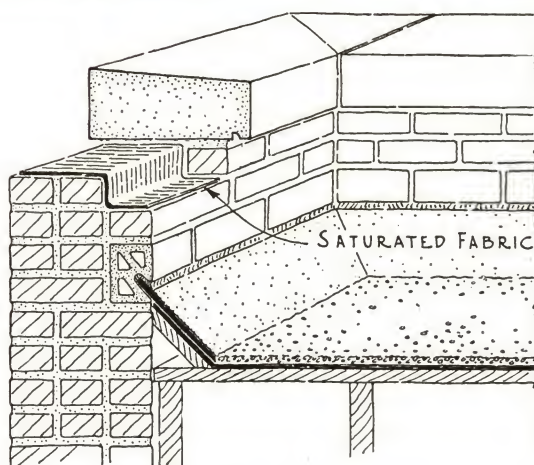


NOTE -
EXPANSION JOINTS SPACED
25'-0" IN EACH DIRECTION
EXTENDING FROM TOP OF
TILE TO THE FELT & PITCH
WATERPROOFING.

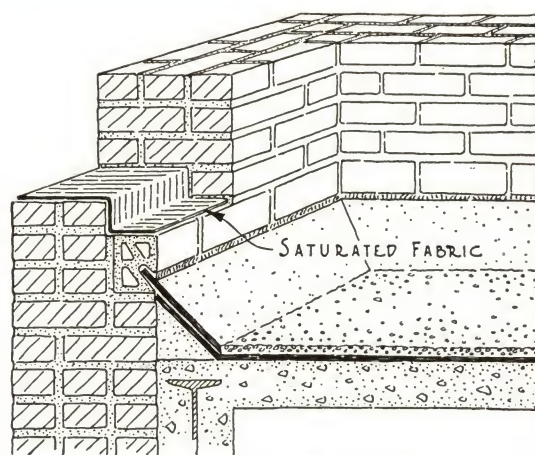
TYPES OF EXPANSION JOINTS

BARRETT ROOF FLASHING SYSTEM

DETAILS FOR FLASHING PARAPET WALLS, SPANDREL BEAMS, ETC.



**THRU WALL FLASHING
LOW PARAPET**



**THRU WALL FLASHING
HIGH PARAPET**

SPECIFICATIONS FOR PARAPET WALLS

On all parapet walls, as detailed, provide and install waterproofing course consisting of two (2) plies of Barrett Waterproofing Fabric and three (3) full trowel coatings of Barrett Plastic P B Cement, applied alternately. Waterproofing course shall be continuous and shall extend to within one-half (1/2) inch of outside edges of walls. All end laps shall be not less than three (3) inches, and each succeeding layer shall break joints with underlying layer.

The fabric shall be applied without wrinkles or buckles and all

trowel coatings shall be smooth and full. Care shall be taken not to injure the waterproofing course either during application or after completion.

Note No. 1—All surfaces on which the waterproofing course is to be installed shall be smooth, dry and free from loose materials.

Note No. 2—On low parapets waterproofing course may be installed under copings. On high parapets or party walls waterproofing course shall be installed flush with top of counter flashing or raggle block.

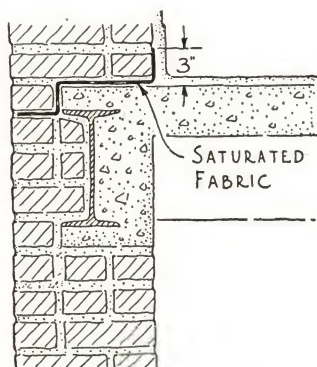
SPECIFICATIONS FOR SPANDREL BEAMS, ETC.

At all spandrels, as detailed, provide and install waterproofing course consisting of two (2) plies of Barrett Waterproofing Fabric, and three (3) full trowel coatings of Barrett Plastic P B Cement, applied alternately. Waterproofing course shall be continuous, shall extend to within one-half (1/2) inch of outside edge of wall, and shall be turned up and cemented to inside walls to a height of at least three (3) inches. All end laps shall be not less than three (3) inches, and each succeeding layer shall break joints with underlying layer.

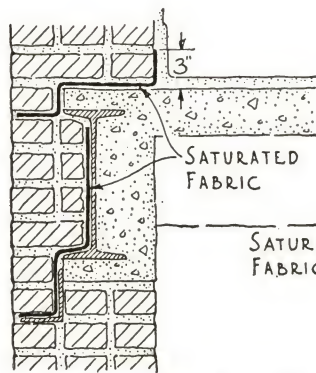
The fabric shall be applied without wrinkles or buckles and all trowel coatings shall be smooth and full. Care shall be taken not to injure the waterproofing course either during application or after completion.

Note No. 1—All surfaces on which the waterproofing course is to be installed shall be smooth, dry and free from loose materials.

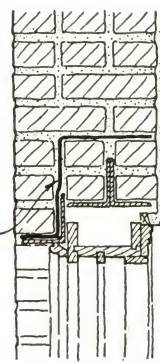
Note No. 2—Method to be followed (whether counter or base and counter) shall be clearly indicated on plans and in specifications prepared by architect.



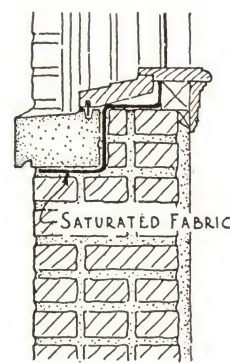
**SPANDREL FLASHING
COUNTER TYPE**



**SPANDREL FLASHING
BASE & COUNTER TYPE**



**WINDOW HEAD
FLASHING**



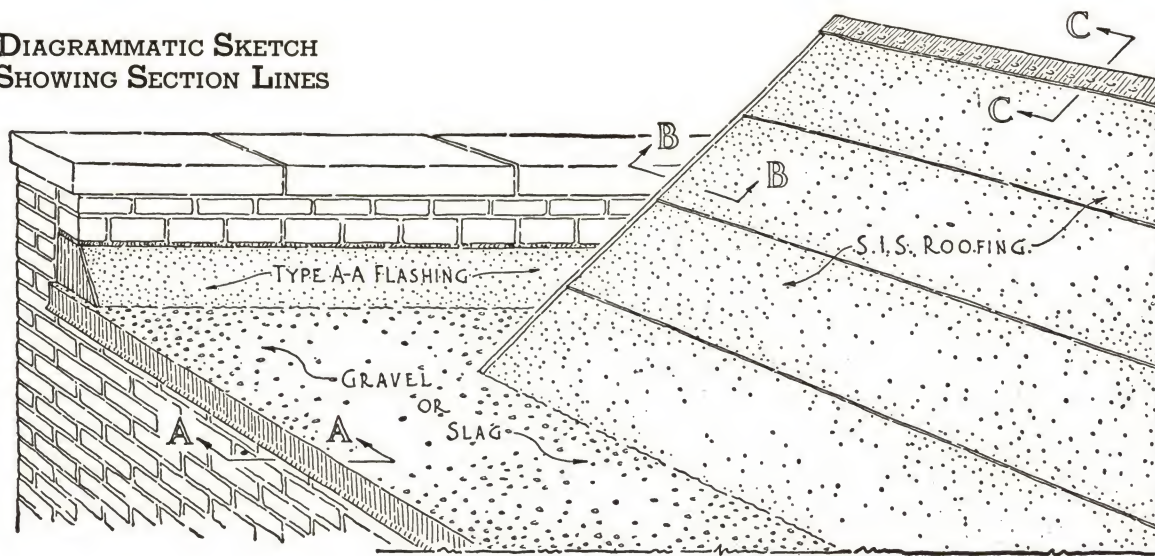
**WINDOW SILL
FLASHING**

DETAILS FOR FLAT AND STEEP ROOF CONSTRUCTION.

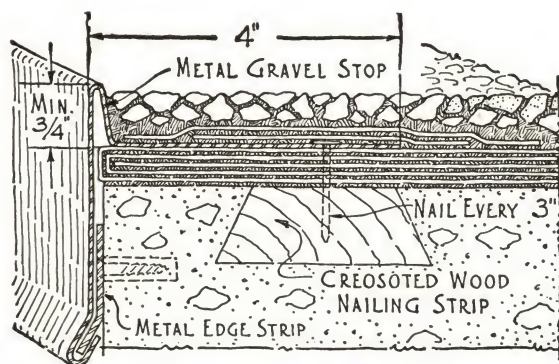
METHOD OF FINISHING EAVES AND EDGES.

Barrett
SINCE
1854

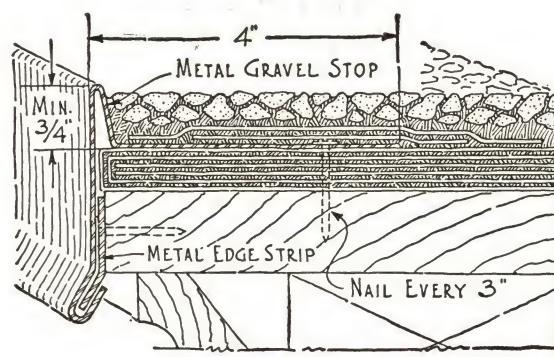
DIAGRAMMATIC SKETCH
SHOWING SECTION LINES



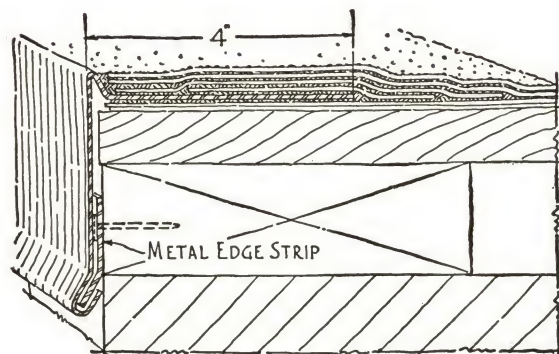
DETAILS FOR FINISHING EAVES AND EDGES



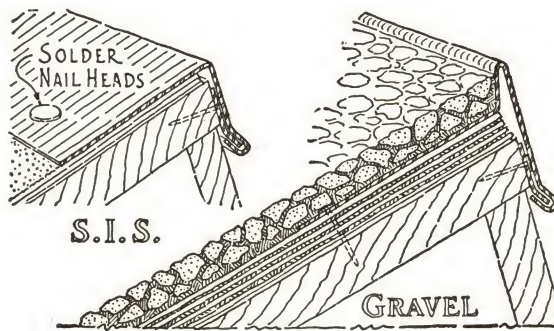
SECTION A-A
METAL EAVE FOR CONCRETE DECK



SECTION A-A
METAL EAVE FOR WOOD DECK



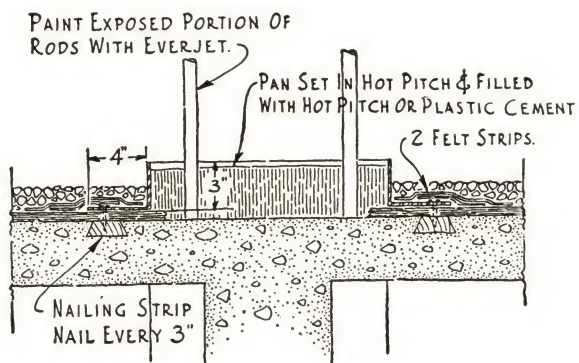
SECTION B-B
GABLE EDGE FOR STEEP ROOFS



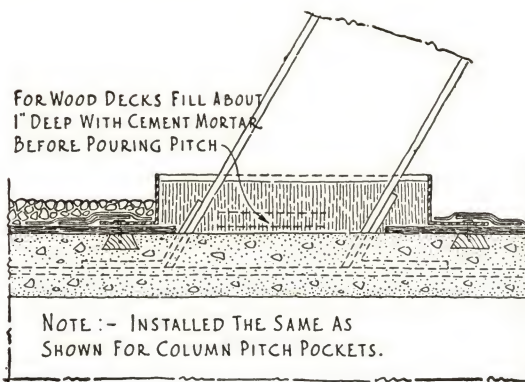
SECTION C-C
METAL RIDGE FOR SAWTOOTH SKYLIGHT

BARRETT ROOF FLASHING SYSTEM

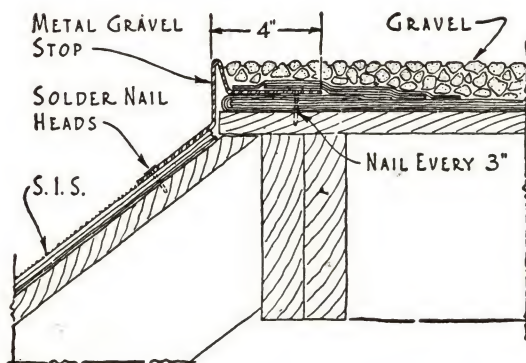
DETAILS FOR FLASHING SIGN SUPPORTS, STACKS, STUB COLUMNS, ETC.



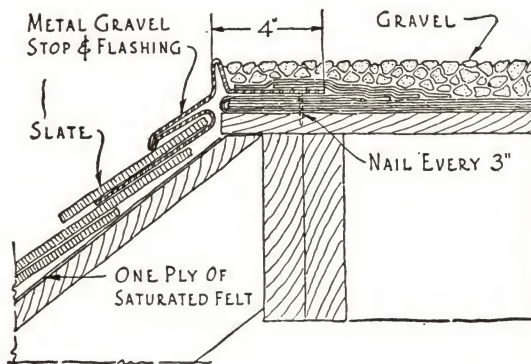
**PITCH POCKETS
FOR COLUMNS**



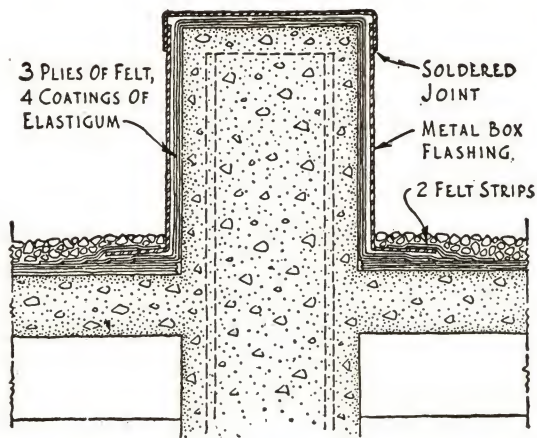
**PITCH POCKETS
FOR SIGN SUPPORTS**



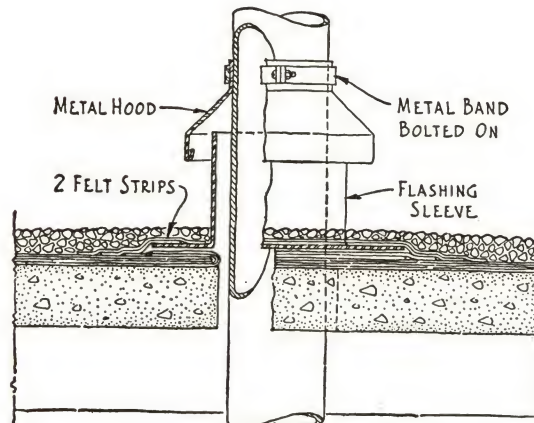
**DETAIL FOR FLAT & STEEP ROOF
CONNECTION**



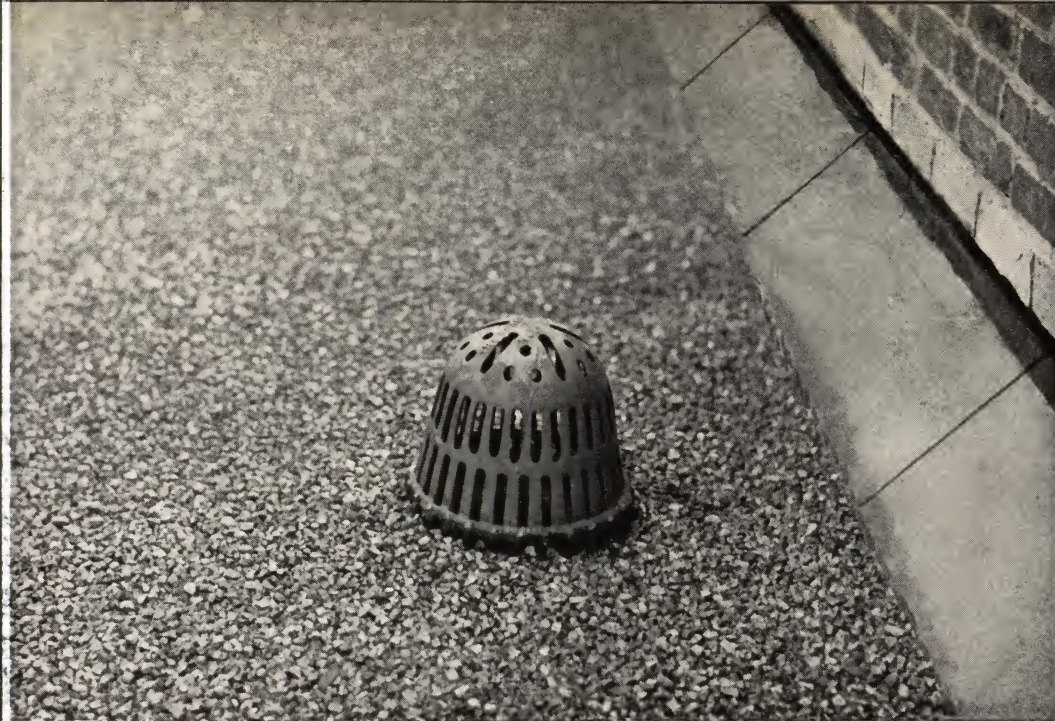
**DETAIL FOR FLAT & STEEP
SHINGLE TYPE ROOF CONNECTION**



METAL CASING FOR STUB COLUMNS



FLASHING FOR STACKS



SECTION 4

ROOF DRAINAGE SYSTEMS

ROOF DRAINS SHOULD BE PERMANENT

In all types of roof construction, it is consistent that roof drains be at least as permanent as the roof coverings they serve. They should be easy to install, should effectively function under all prevailing conditions, and should provide against clogging of drainage outlets by leaves or debris deposited on the roof proper.

The Barrett-Holt Roof Connection

The Barrett-Holt Roof Connection* meets the demand for a completely assembled, long-lived and dependable roof drain fixture. The connection is made up in a variety of types to meet the particular conditions involved. It consists of a roof fitting with roof locking attachment; a component flashing flange; and an expansion joint. The types furnished for use in connection with inside leader lines are equipped with a cast metal tile or gravel stop; a strainer plate; and serviceable cast metal strainer.

The flashing flange furnished as a component part of the Barrett-Holt Roof Connection assures a dependable connection between the leader head unit and the roof covering. The expansion joint makes possible a flexible, yet water and gas-tight joint between the

connection and the pipe or fixture joined to it. The changes resulting from shrinkage, settlement, and expansion or contraction are thereby properly provided for without danger of broken joints or troublesome leaks.

They are used: (1) As a roof leader connection where inside leader or conductor pipe is installed; (2) As a roof vent connection where soil or waste vent pipe is installed; (3) As a connection where any pipe, flag-pole, tank support or similar fixture is carried through the roof deck of a building.

Used More Than Twenty Years

More than twenty years of use under exacting conditions have proved the Barrett-Holt Roof Connection to be the most dependable device of its kind on the market. It simplifies specification procedure—a type to meet each need can be specified in a few words. It is easy to install, and allowances covering extra parts or assembly costs are not necessary.

The Barrett-Holt Roof Connections described are standard, and are recommended for use on all types of flat and steep roof construction, in accordance with the specifications outlined.

*Patented

BARRETT-HOLT ROOF LEADER AND VENT CONNECTIONS

FOR SLAG OR SMOOTH
SURFACED ROOFS

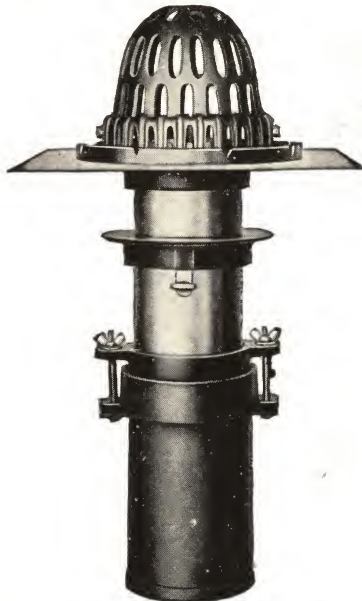


Type 6 Vent Connection

FOR INCLINED ROOFS



Type 2 Leader Connection

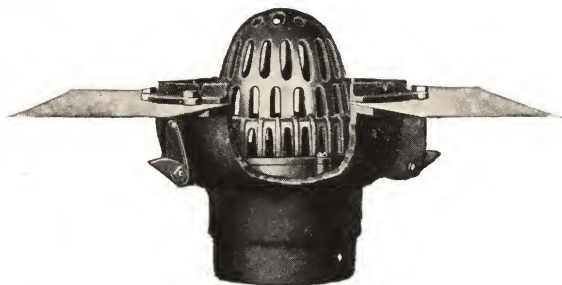


Type 1 Leader Connection

FOR TILE SURFACED ROOFS



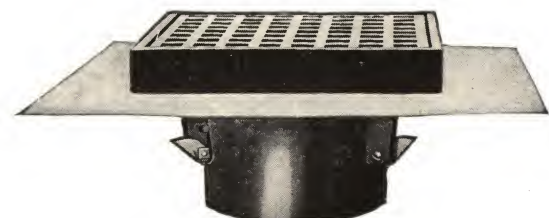
Type 1 Leader Connection



Type 5 Leader Connection



Type 6 Leader Connection



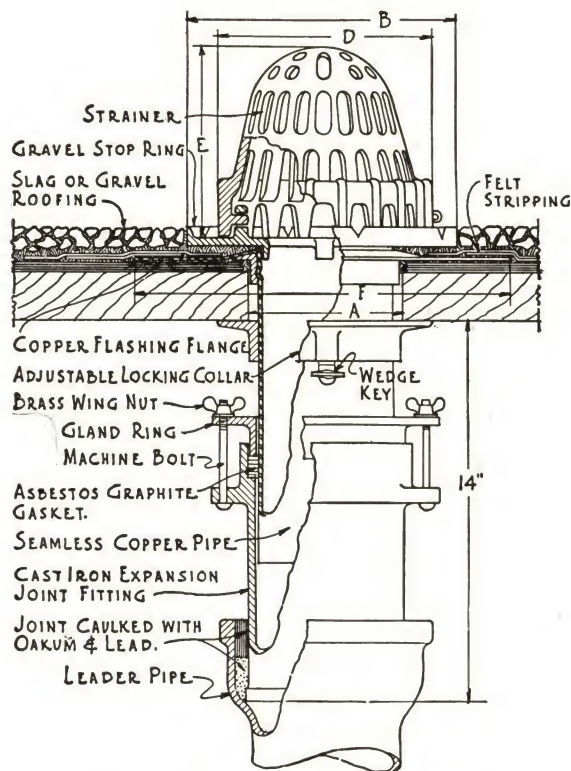
Type 6 Leader Connection

METHOD OF INSTALLING BARRETT-HOLT LEADER CONNECTIONS FOR TYPES 1-LG, 1-LS AND 1-LM

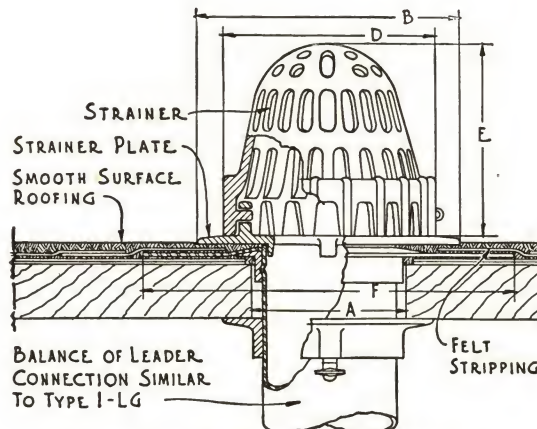
Barrett

SINCE
1854

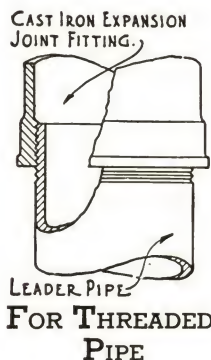
These types are used as leader connections on flat roofs having interior drainage, except roofs covered with tile or a similar material, and where ample working space is provided below the roof deck.



TYPE 1-LG, SLAG OR GRAVEL SURFACE

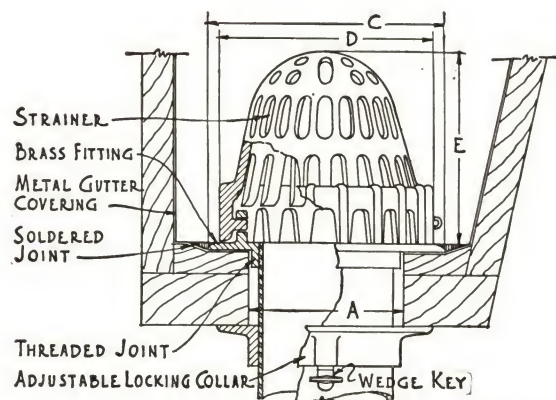


TYPE 1-LS, SMOOTH SURFACE



SIZE OF PIPE	A	B	C	D	E	F
3"	4"	8"	7"	6 3/4"	6 8"	12"x12"
4"	5"	8"	7"	6 3/4"	6 8"	12"x12"
5"	6"	10 3/4"	9 3/4"	9 1/2"	8 1/2"	14"x14"
6"	7"	10 3/4"	9 3/4"	9 1/2"	8 1/2"	16"x16"
8"	9"	11 1/2"	11"	10 1/2"	9 1/2"	18"x18"
10"	11"	14 1/4"	13 1/2"	13"	11"	20"x20"

DIMENSION TABLE



TYPE 1-LM, METAL COVERED GUTTERS

THICKNESS OF ROOF DECK	LENGTH OF CONNECTION
1" MAX.	10"
3" "	12"
5" "	14"
7" "	16"
9" "	18"

NOTE.—WHEN SCREW THREAD PIPE IS TO BE USED IN BUILDINGS CONSTRUCTED OF STEEL, CONCRETE, BRICK, STONE OR SIMILAR NON-SHRINKABLE MATERIAL, AND THE EXPANSION AND CONTRACTION OF THE LEADER PIPE WILL NOT EXCEED 1", A CONNECTION 2" SHORTER MAY BE USED. THE MINIMUM LENGTH OF THE CONNECTION IS 10".

SPECIFICATION FOR INSTALLING BARRETT-HOLT LEADER CONNECTIONS, TYPES 1-LG, 1-LS AND 1-LM

PREPARATION OF DECK—The opening through the roof deck shall be of proper size to receive the Roof Leader Connection and shall be concentric with leader pipe.

Barrett-Holt Roof Leader Connection, Type . . . shall be installed at the drainage outlets and shall be of proper size and length to connect to . . . inch leader pipe as shown on Drawing No. . . .

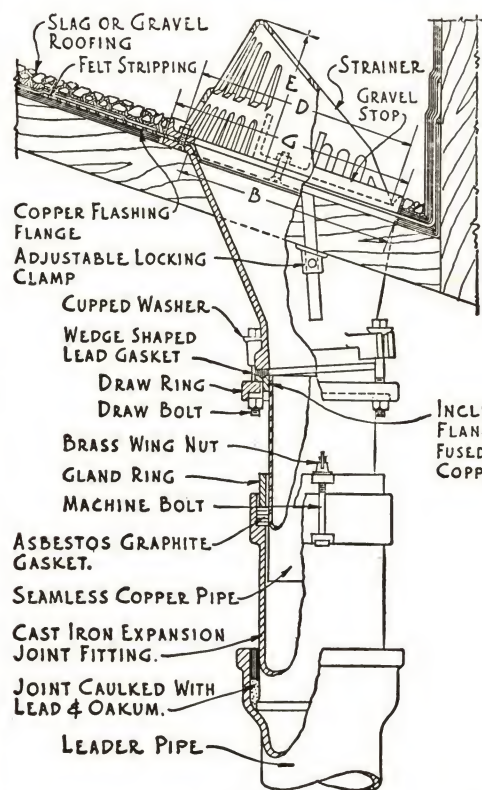
Barrett-Holt Roof Leader Connections shall be installed and connected complete in strict accordance with directions of the manufacturer.

Note—Where built-up roofing is used as a roof covering, two plies of Felt thoroughly embedded in hot bitumen shall be applied over the entire copper flashing flange, the outer edge of the first ply to extend beyond the flange not less than three (3) inches and of the second ply not less than six (6) inches before application of finished roof surfacing.

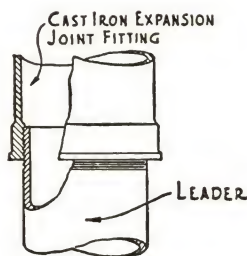
IMPORTANT—The copper flashing flange being an integral part of the Types 1-LG, 1-LS and 1-LM Connections, shall in no case be removed. If the flange is bent, it shall be straightened and made smooth before it is set in place. The flashing flange shall be secured to the roof deck with nails wherever possible.

BARRETT-HOLT ROOF DRAINAGE SYSTEM

METHOD OF INSTALLING BARRETT-HOLT LEADER CONNECTIONS FOR TYPES 2-LG AND 2-LS



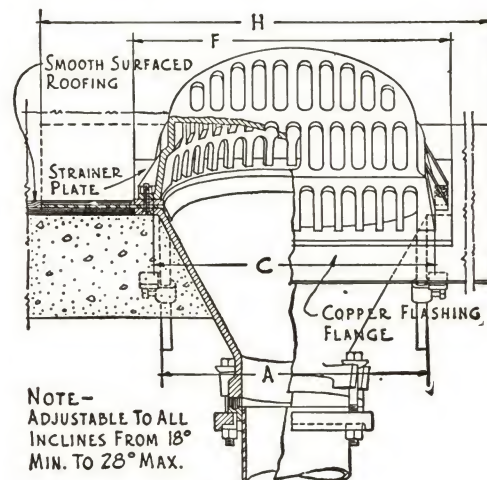
SIDE VIEW
TYPE 2-LG, STEEP SLAG OR
GRAVEL SURFACE



FOR THREADED
PIPE

SIZE OF PIPE	A	B	C	D	E	F	G	H
3"	9 $\frac{1}{8}$ "	6 $\frac{3}{4}$ "	10 $\frac{1}{8}$ "	7 $\frac{1}{8}$ "	4 $\frac{5}{8}$ "	10 $\frac{7}{8}$ "	7 $\frac{1}{8}$ "	18"x18"
4"	10 $\frac{3}{8}$ "	8 $\frac{3}{8}$ "	11 $\frac{3}{8}$ "	8 $\frac{5}{8}$ "	5 $\frac{3}{8}$ "	12 $\frac{1}{4}$ "	9 $\frac{3}{8}$ "	20"x20"
5"	11 $\frac{3}{8}$ "	9 $\frac{1}{8}$ "	12 $\frac{1}{2}$ "	9 $\frac{1}{8}$ "	5 $\frac{1}{2}$ "	13 $\frac{1}{8}$ "	10 $\frac{1}{2}$ "	22"x22"
6"	12 $\frac{3}{8}$ "	10 $\frac{3}{8}$ "	13 $\frac{3}{8}$ "	10"	5 $\frac{3}{4}$ "	14 $\frac{1}{4}$ "	11 $\frac{3}{8}$ "	24"x24"
8"	THIS CONNECTION ON SPECIAL ORDER.							

DIMENSION TABLE



FRONT VIEW
TYPE 2-LS, STEEP SMOOTH SURFACE

This type is used as a leader connection on inclined roofs ranging from 12° to 42° and having interior drainage. The range of variation of the standard connection is from 18° to 28°. For lesser inclines ranging from 12° to 18° or greater inclines ranging from 28° to 42° special fittings are furnished.

SPECIFICATION FOR INSTALLING BARRETT-HOLT LEADER CONNECTIONS, TYPES 2-LG AND 2-LS

PREPARATION OF SURFACES—The opening through the roof deck shall be of proper size to receive the Roof Leader Connection, and shall be concentric with leader pipe.

INSTALLATION OF LEADER CONNECTIONS—First—Barrett-Holt Roof Leader Connection, Type shall be installed at all drainage outlets and shall be of proper size and length to connect to inch leader pipe as shown on Drawing No.

Second—Barrett-Holt Roof Leader Connection shall be adjusted to fit the roof incline and draw-bolts tightened to obtain a water-tight joint. The Connection shall be set in place so that the lower surface of the iron flange shall be flush with the finished surface of the roof deck. The adjustable locking clamps shall be brought up tightly against the under-side of the roof deck and firmly fastened with the set screws so that the Connection is made integral with the roof deck.

Third—At each drainage point a section of the valley roofing not less than three (3) feet wide shall be carried up the inclined surface of the roof deck not less than two (2) feet. Roofing shall terminate at the outer edge of the iron flange of the Connection.

Fourth—After all roofing Felt has been laid and before the finished wearing surface is applied, the surface of the iron flange of the Connection shall be thoroughly cleaned and the copper flashing

flange embedded in Plastic Elastigum. If the flange is bent it shall be straightened and made smooth before being set in place. Flashing flange shall be nailed wherever possible. Iron gravel stop ring or strainer plate shall be set in Plastic Elastigum and firmly drawn down by brass nuts.

Fifth—The cast iron strainer shall be fastened in place (if a brass or aluminum strainer is desired, it shall be specified).

Sixth—The copper Flashing Flange shall be thoroughly mopped with hot bitumen into which, while hot, the steep roofing shall be applied and brought up to the gravel stop or strainer plate.

Seventh—The valley roofing shall be laid and brought up to the gravel stop or strainer plate.

Eighth—The gland ring, gasket and expansion joint fitting shall be set in place and the last length of leader pipe cut to proper length and placed in position. The lower end of the expansion joint fitting shall be not less than fourteen (14) inches from the bottom of the veins on the side of the roof bowl.

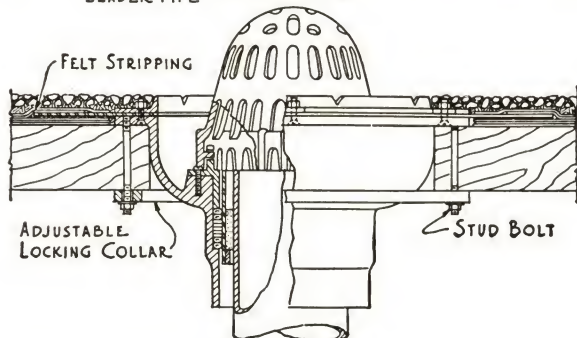
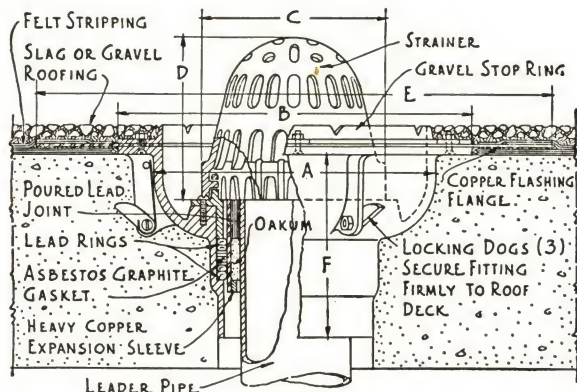
Ninth—The gasket and gland ring shall be brought down into the expansion joint fitting, bolted and tightened sufficiently by the wing nuts to obtain a water-tight connection. The joint between the expansion joint and the leader pipe shall then be made.

METHOD OF INSTALLING BARRETT-HOLT LEADER CONNECTIONS FOR TYPES 5-LG, 5-LS AND 5-LM

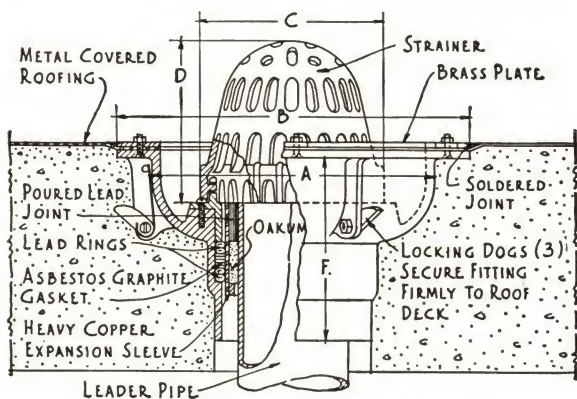
Barrett

SINCE
1854

These types are used as leader connections on flat roofs having interior drainage, where a sump type of roof connection is desired.



**TYPE 5-LG,
SUMP TYPE SLAG OR GRAVEL SURFACE**



**TYPE 5-LM, SUMP TYPE
METAL COVERED GUTTERS & ROOFS**

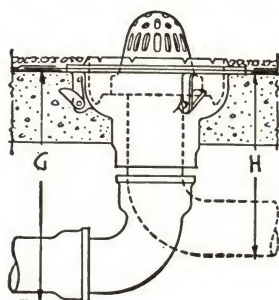
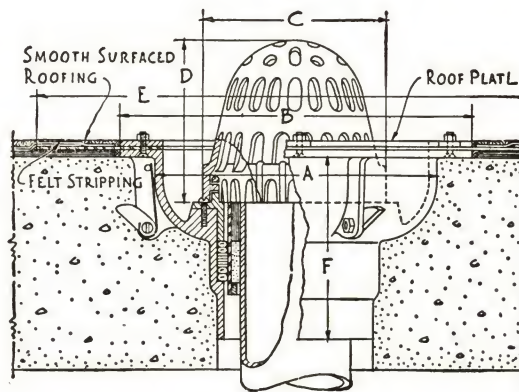


TABLE OF MIN. DIMENSIONS		
SIZE OF PIPE	G	H
3"	17 3/4"	11 1/2"
4"	18 1/4"	12"
5"	18 3/4"	12 1/2"
6"	19 1/4"	13"
8"	20"	13 1/2"



**TYPE 5-LS,
SUMP TYPE SMOOTH SURFACE**

NOTE—
STUD BOLTS AND ADJUSTABLE LOCKING COLLAR
USED ONLY FOR WOOD OR GYPSUM ROOF DECKS.

SIZE OF PIPE	A	B	C	D	E	F
3"	10 1/4"	12 5/8"	6 3/4"	6 8"	20"x20"	7"
4"	12 1/4"	14 5/8"	9 1/2"	8 1/2"	24"x24"	7"
5"	12 1/4"	14 5/8"	9 1/2"	8 1/2"	24"x24"	7"
6"	13 1/4"	15 5/8"	10 1/2"	9 1/2"	24"x24"	7"
8"	15 1/4"	17 5/8"	13"	11"	26"x26"	7"

DIMENSION TABLE

SPECIFICATION FOR INSTALLING BARRETT-HOLT LEADER CONNECTIONS, TYPES 5-LG, 5-LS AND 5-LM

PREPARATION OF SURFACES—The opening through the roof deck shall be of proper size to receive the Roof Leader Connection and shall be concentric with the leader pipe.

INSTALLATION OF LEADER CONNECTIONS—**First**—Barrett-Holt Roof Leader Connection Type shall be installed at all drainage outlets and shall be of proper size and length to connect to inch leader pipe as shown on Drawing No.

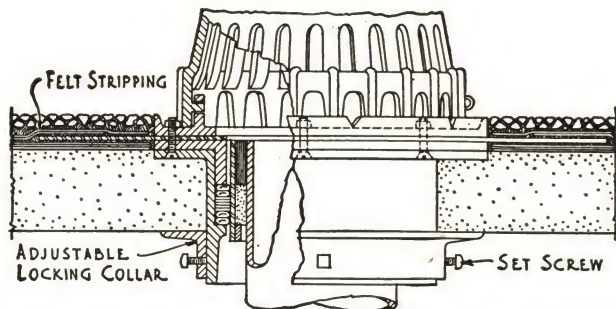
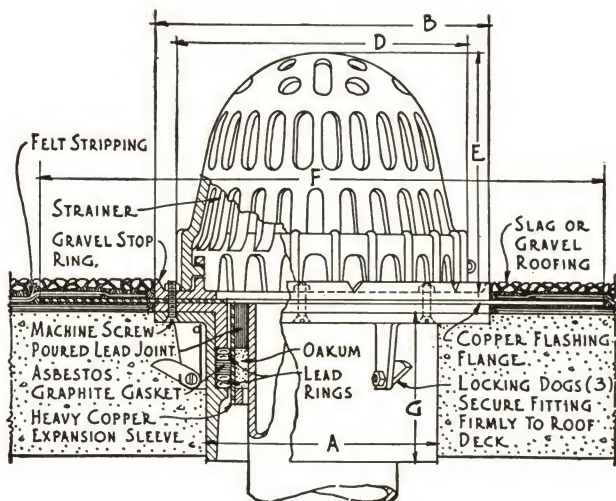
Second—Barrett-Holt Roof Leader Connections shall be installed and connected complete in strict accordance with directions of the manufacturer.

Note—Where built-up roofing is used as a roof covering, two (2) plies of felt thoroughly embedded in hot bitumen shall be applied over the entire copper flashing flange, the outer edge of the first ply to extend beyond the flange not less than three (3) inches and of the second ply not less than six (6) inches.

When used in connection with gypsum or wood roof decks, types 5-LG, 5-LS and 5-LM Connections are equipped with threaded stud bolts which hold the adjustable locking collar in place.

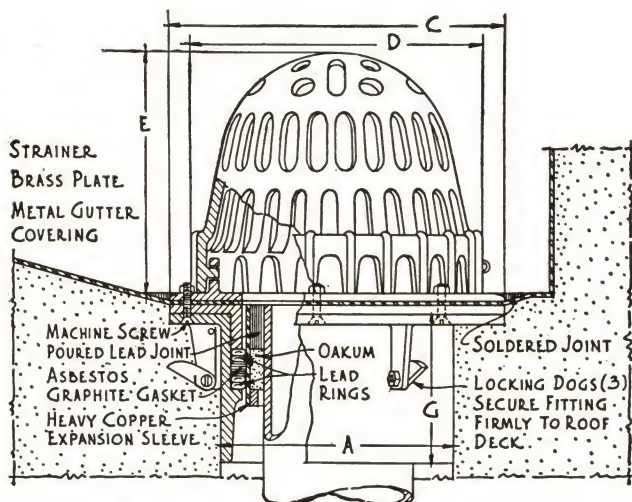
BARRETT DAMPPROOFING SYSTEM

METHOD OF INSTALLING BARRETT-HOLT LEADER CONNECTIONS FOR TYPES 6-LG, 6-LS AND 6-LM

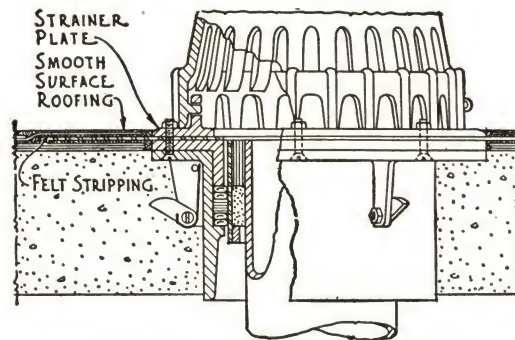


TYPE 6-LG, SLAG OR GRAVEL SURFACE

These types are used as leader connections on flat roofs having interior drainage, except roofs covered with tile or a similar material, and where working space below the roof deck is restricted.



**TYPE 6-LM, METAL COVERED
GUTTERS & ROOFS**



TYPE 6-LS, SMOOTH SURFACE

SIZE OF PIPE	A	B+C	D	E	F	G
3"	6 1/4"	10 3/4"	9 1/2"	8 1/2"	16x16"	4 1/2"
4"	7 1/4"	10 3/4"	9 1/2"	8 1/2"	18x18"	4 1/2"
5"	8 1/4"	11 3/4"	10 1/2"	9 1/2"	20x20"	4 1/2"
6"	9 1/4"	11 3/4"	10 1/2"	9 1/2"	20x20"	4 1/2"
8"	11 1/4"	14 1/4"	13"	11"	24x24"	4 1/2"

DIMENSION TABLE

SPECIFICATION FOR INSTALLING BARRETT-HOLT LEADER CONNECTIONS, TYPES 6-LG, 6-LS AND 6-LM

The opening through the roof deck shall be of proper size to receive the Roof Leader Connection and shall be concentric with the leader pipe.

Barrett-Holt Roof Leader Connection Type shall be installed at all drainage outlets and shall be of proper size and length to connect to inch leader pipe as shown on Drawing No.

Barrett-Holt Roof Leader Connections shall be installed and connected complete in strict accordance with directions of the manufacturer.

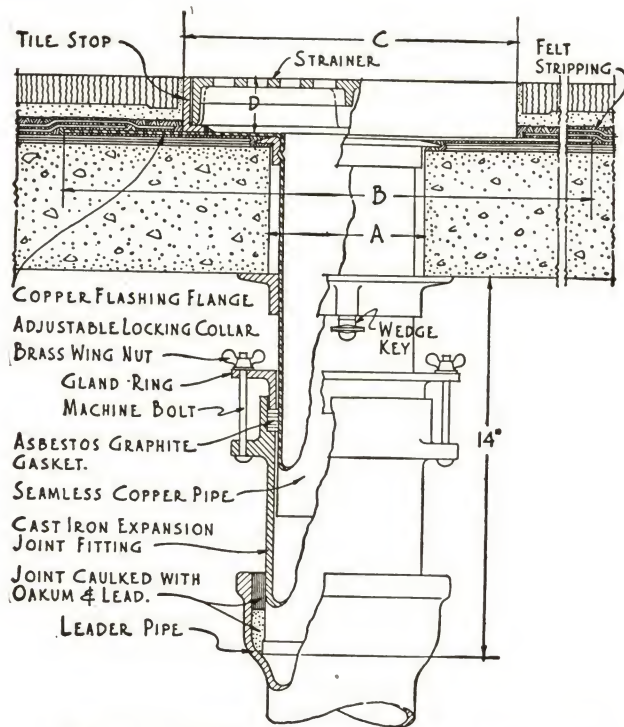
Where built-up roofing is used as a roof covering, two (2) piles of Felt thoroughly embedded in hot bitumen shall be applied over the entire copper flashing flange, the outer edge of the first ply to extend beyond the flange not less than three (3) inches and of the second ply not less than six (6) inches before application of finished surfacing.

Note—Where gypsum or wood roof deck exceeds three and one-half (3 1/2) inches in thickness, Types 6-LG, 6-LS and 6-LM Connections are equipped with threaded stud bolts which hold the adjustable locking collar in place.

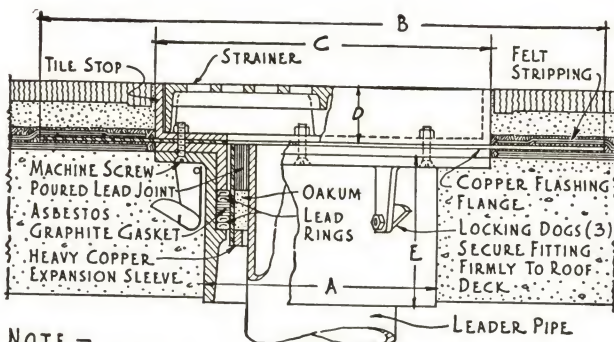
METHOD OF INSTALLING BARRETT-HOLT LEADER CONNECTIONS TYPES 1-LT AND 6-LT FOR TILE SURFACED ROOFS

Barrett

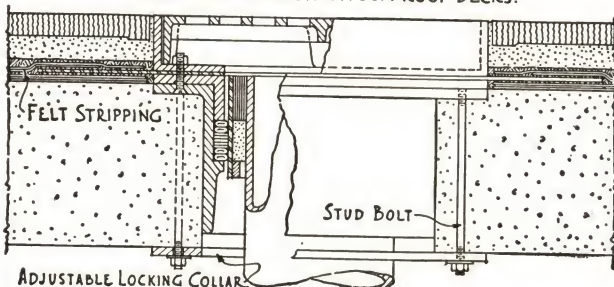
SINCE
1854



TYPE 1-LT, TILE OR SIMILAR SURFACE



NOTE —
STUD BOLTS AND ADJUSTABLE LOCKING COLLAR
USED ONLY FOR WOOD OR GYPSUM ROOF DECKS.



TYPE 6-LT, TILE OR SIMILAR SURFACE

SIZE OF PIPE	A	B	C	• D
3"	4"	18"x18"	10 3/8"	3/4"
4"	5"	18"x18"	10 3/8"	TO 3 1/2" UNIT OF VARIATION • 1/4"
5"	6"	18"x18"	10 3/8"	
6"	7"	18"x18"	10 3/8"	
8"	9"	ON SPECIAL ORDER ONLY		
10"	11"			

DIMENSION TABLE

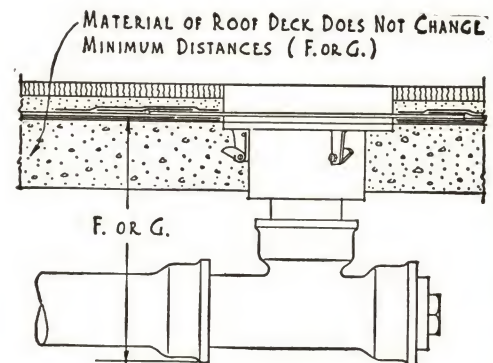
SPECIFICATION FOR INSTALLING BARRETT-HOLT LEADER CONNECTIONS TYPES 1-LT AND 6-LT

The opening through the roof deck shall be of proper size to receive the Roof Leader Connection and shall be concentric with leader pipe.

Barrett-Holt Roof Leader Connection Type shall be installed at all drainage outlets and shall be of proper size and length to connect to inch leader pipe as shown on Drawing No.

Barrett-Holt Roof Leader Connections shall be installed and connected complete in strict accordance with directions of the manufacturer.

Before the application of the cement bed or the finished surfacing material, two (2) plies of Felt thoroughly embedded in hot bitumen shall be applied over the entire copper flashing flange, the outer edge of the first ply to extend beyond the flange not less than three (3) inches and of the second ply not less than six (6) inches.



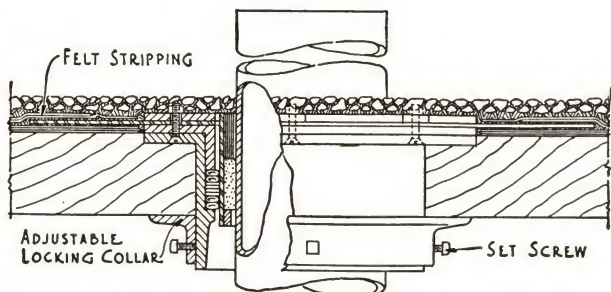
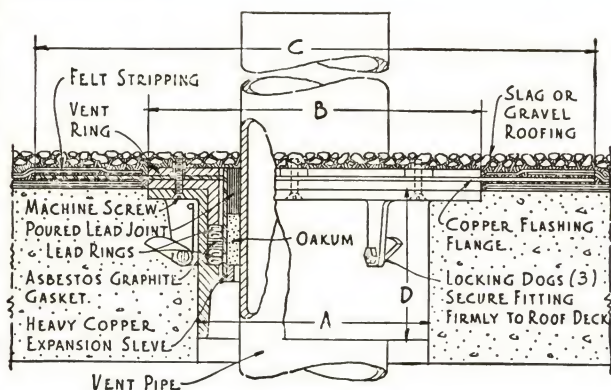
F — REFERS TO CAST IRON SOIL PIPE
G — REFERS TO WROUGHT IRON OR STEEL SCREW PIPE.

SIZE OF PIPE	A	B	C	D	E	F	G
3"	6 1/4"	20"x20"	10 1/2"	1"	4 1/2"	15 1/4"	13 1/2"
4"	7 1/4"	20"x20"	10 1/2"	TO 3 1/2"	4 1/2"	15 3/4"	14 1/4"
5"	8 1/4"	20"x20"	10 1/2"	UNIT OF VARIATION 1/4"	4 1/2"	16 1/4"	14 3/4"
6"	9 1/4"	20"x20"	10 1/2"		4 1/2"	16 3/4"	15 1/4"
8"	11 1/4"	24"x24"	SPEC.		4 1/2"	17 3/4"	17 3/4"

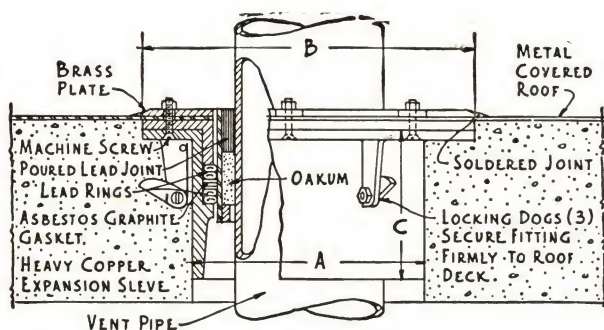
DIMENSION TABLE

BARRETT-HOLT ROOF DRAINAGE SYSTEM

METHOD OF INSTALLING BARRETT-HOLT VENT CONNECTIONS FOR TYPES 6-VG, 6-VS, 6-VT AND 6-VM



TYPE 6-VG, SLAG OR GRAVEL SURFACE



TYPE 6-VM, METAL COVERED ROOFS

SPECIFICATION FOR TYPES 6-VG, 6-VS, 6-VT AND 6-VM

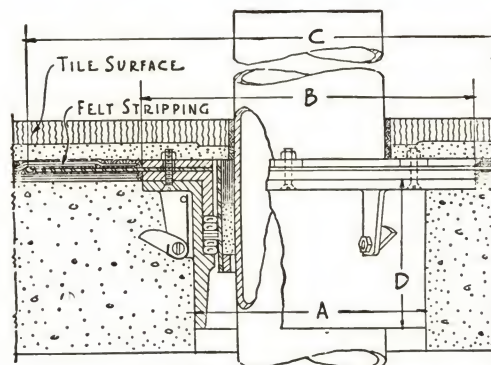
The opening through roof deck shall be of proper size to receive Roof Vent Connection and shall be concentric with vent pipe.

Barrett-Holt Roof Vent Connection Type shall be installed at all vent openings and shall be of proper size to connect with inch vent pipe as shown on Drawing No.

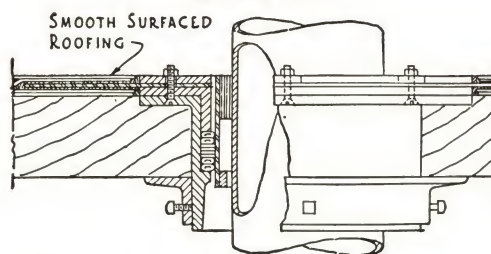
Barrett-Holt Roof Vent Connections shall be installed and connected complete in strict accordance with directions of manufacturer.

Where built-up roofing is used as a roof covering, two (2) plies of Felt thoroughly embedded in hot bitumen shall be applied over the entire copper flashing flange, the outer edge of the first ply to extend beyond the flange not less than three (3) inches and of the second ply not less than six (6) inches before the application of finished surfacing.

Note: Where gypsum or wood roof decks exceed 3½ inches in thickness, connections are equipped with threaded stud bolts which hold adjustable locking collar in place.



TYPE 6-VT, TILE OR SIMILAR SURFACE

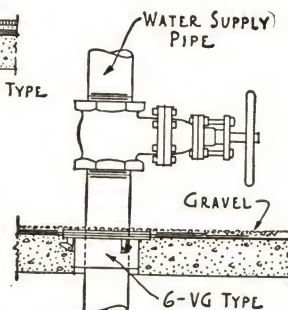
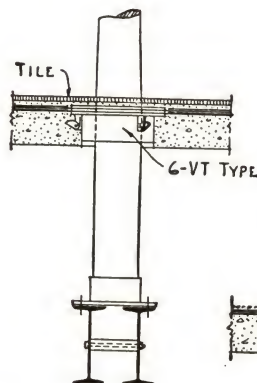
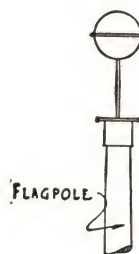


TYPE 6-VS, SMOOTH SURFACE

These types used on flat roofs for soil and waste vent stacks, flag-poles, supply pipes or any similar fixture carried through the roof deck.

SIZE OF PIPE	A	B	C	D
3"	6½"	8½"	16"x16"	4½"
4"	7½"	9½"	18"x18"	4½"
5"	8½"	10½"	20"x20"	4½"
6"	9½"	11½"	20"x20"	4½"
8"	11½"	14½"	24"x24"	4½"

DIMENSION TABLE



6-V TYPES CAN BE USED FOR WATER PIPES, FLAGPOLES, FIRE LINES, ETC



SECTION 5

WATERPROOFING AGAINST HYDROSTATIC PRESSURE

MEMBRANE WATERPROOFING

A Vital Part of Building Construction

Waterproofing in some form is essential to the life and stability of many structures. Just what this form should be is a problem not exactly determinable by precise mathematical calculation. However, with a careful study of conditions, with the knowledge of definite factors and with the help of past experience, a form or method of waterproofing may be devised for the specific conditions encountered. Proper waterproofing materials, intelligently selected and skillfully applied, are vital factors in making engineering structures watertight.

A Blanket of Protection

For most satisfactory results the use of the membrane method of waterproofing is recommended. This method correctly followed not only protects but prolongs the life of any structure, and has been successfully used over a long period of years. It provides an elastic and continuous bituminous waterproofing blanket, composed of layers of waterproofing felt or fabric, homogeneously cemented with suitable waterproofing bitumen.

Water Pressure

The use of the membrane system applies generally to the waterproofing of structures exposed to hydrostatic pressure or conditions of dampness or moisture, particularly those below ground surface, such as foundations of buildings, tunnels, subways, or other forms of sub-construction. It is equally adaptable to the waterproofing of reservoirs, bridges, retaining walls, etc.

The following specifications treat with specific conditions. The materials specified are prepared expressly for the purposes intended, and are definitely suited to the conditions under which they are required to function. The application methods described are accepted as standard practice.

Workmanship

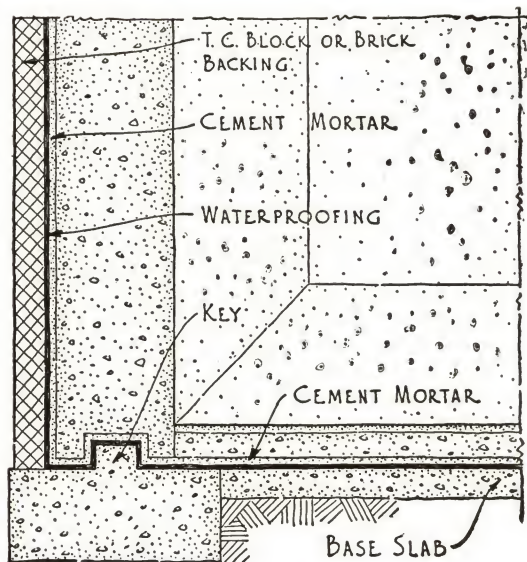
Barrett Approved Waterproofing Contractors are skilled in the art of waterproofing. Their employment on specific installations, in accordance with the specifications outlined, assures satisfactory results.

BARRETT ENGINEERING CONSULTING SERVICE

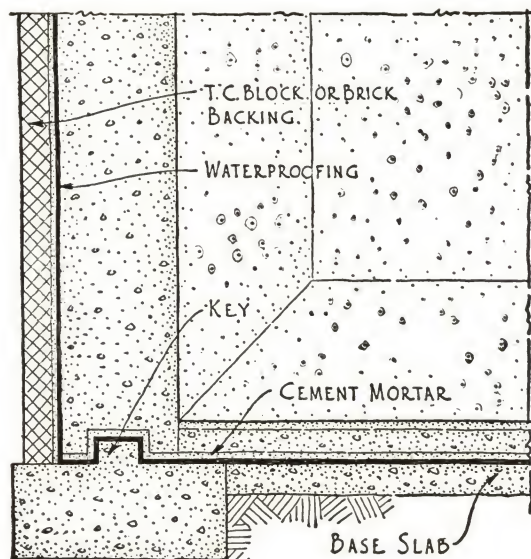
The services of our Construction Service Department are available for consultation or co-operation in the

preparing of specifications or handling of unusual installations not incorporated in this section.

MEMBRANE METHOD OF SUBSTRUCTURE WATERPROOFING



**WATERPROOFING DETAIL FOR
OUTSIDE WALLS, FOOTINGS, ETC.
- INSIDE APPLICATION -**



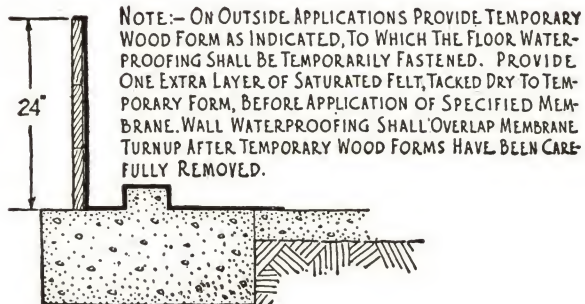
**WATERPROOFING DETAIL FOR
OUTSIDE WALLS, FOOTINGS, ETC.
- OUTSIDE APPLICATION -**

NOTE:-

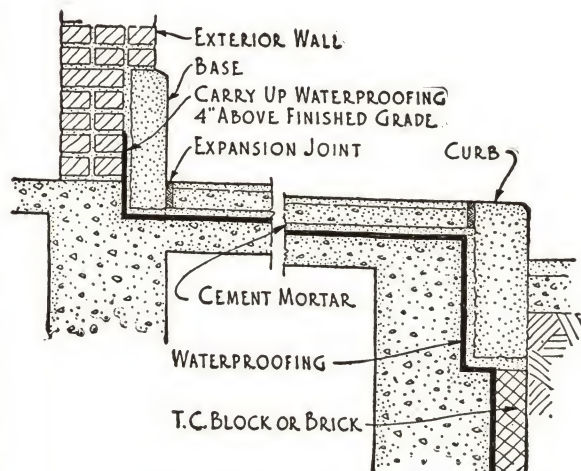
ON INSIDE APPLICATIONS WATERPROOFING MEMBRANE, AS SPECIFIED, IS APPLIED DIRECTLY TO THE TILE OR BRICK BACKING AS INDICATED.

IMPORTANT -

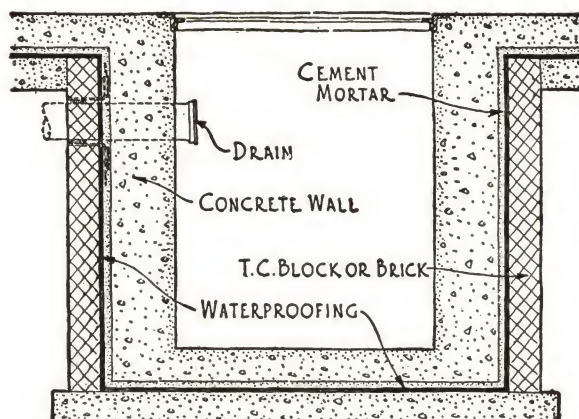
ALL MASONRY SHALL BE DESIGNED TO WITHSTAND THE MAXIMUM HYDROSTATIC PRESSURE.
SEE PLATE 49 FOR WATERPROOFING SPECIFICATIONS.



NOTE:- ON OUTSIDE APPLICATIONS PROVIDE TEMPORARY WOOD FORM AS INDICATED, TO WHICH THE FLOOR WATERPROOFING SHALL BE TEMPORARILY FASTENED. PROVIDE ONE EXTRA LAYER OF SATURATED FELT, TACKED DRY TO TEMPORARY FORM, BEFORE APPLICATION OF SPECIFIED MEMBRANE. WALL WATERPROOFING SHALL OVERLAP MEMBRANE TURNUP AFTER TEMPORARY WOOD FORMS HAVE BEEN CAREFULLY REMOVED.



**WATERPROOFING DETAIL FOR
VAULTS & TUNNELS**

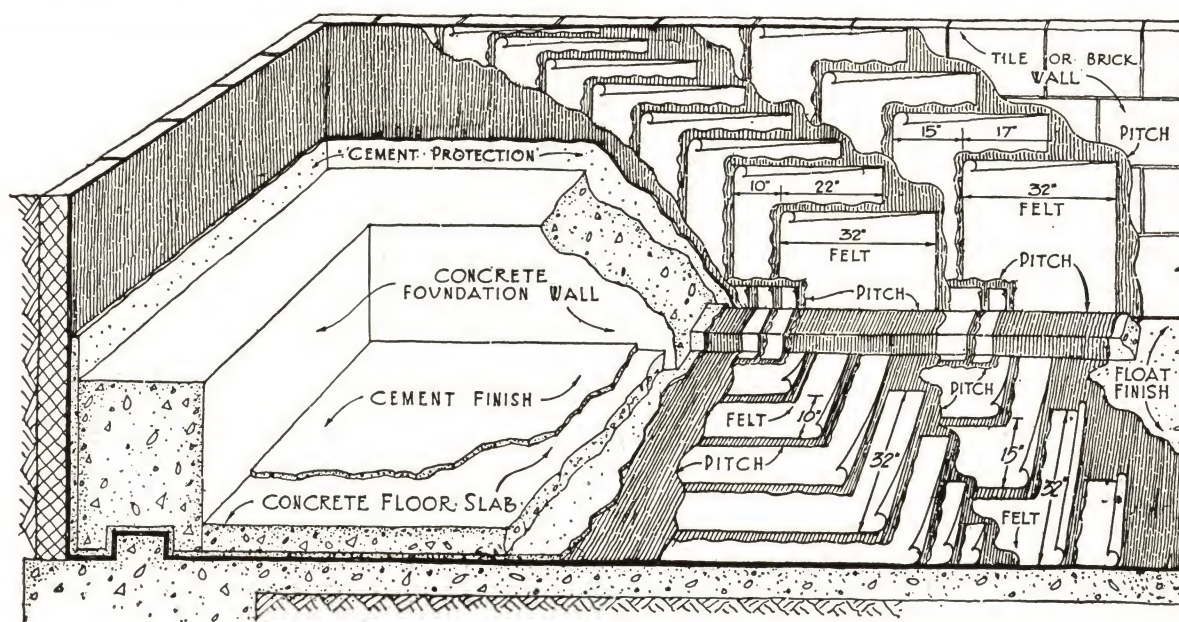


**WATERPROOFING DETAIL FOR
SUMPS & PITS**

MEMBRANE METHOD OF SUBSTRUCTURE WATERPROOFING

Barrett

SINCE
1854



DETAIL FOR SUBSTRUCTURE WATERPROOFING — 5 PLY CONSTRUCTION

IMPORTANT—All Masonry Shall Be Designed to Withstand Maximum Hydrostatic Pressure

SPECIFICATION

Note—The waterproofing shall be applied by a waterproofing contractor approved by THE BARRETT COMPANY, who has had experience in successfully applying this type of built-up waterproofing on sub-grade construction, and who can refer to work of a similar nature that he has executed in a satisfactory manner.

PREPARATION OF SURFACES—All surfaces on which the waterproofing is to be applied shall be firm, smooth and dry, and free from loose materials, and shall be covered by a membrane of continuous waterproofing consisting of plies of Barrett Tarred Felt and moppings of Barrett Waterproofing Pitch.

APPLICATION OF WATERPROOFING—First—Coat the entire surface on which the waterproofing is to be applied with Barrett Waterproofing Pitch into which, while hot, embed a layer of Barrett Tarred Felt, as specified, following this with alternating moppings of Pitch and layers of Felt until moppings of Pitch and layers of Felt have been applied. Each layer of Felt shall be thoroughly rubbed into the hot Pitch, and the entire surface shall be immediately mopped with Pitch to insure thorough embedding of the Felt. The Felt shall be laid without wrinkles or buckles, and the finished membrane shall be free from pockets or blisters.

Second—Not less than pounds of Waterproofing Pitch shall be used for constructing each one hundred (100) square feet of completed waterproofing, and the Pitch shall not be heated above three hundred and fifty (350) degrees Fahrenheit.

Third—At wall angles and footings and places where the waterproofing may be subjected to unusual strain, there shall be applied not less than two (2) extra reinforcing layers of Felt and alternating moppings of Pitch.

Fourth—Where laps are left to be connected, they shall be not less than ten (10) inches wide, and shall be temporarily protected by one-half (½) inch troweled course of Portland Cement Mortar. When connections with laps are made, laps shall be carefully cleaned, dry, and mopped with Pitch before proceeding with the work.

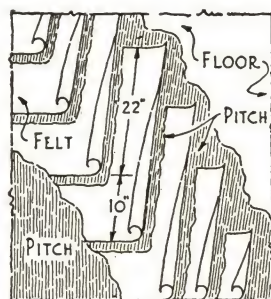
Fifth—Care shall be taken not to injure the waterproofing membrane either during application or after completion, and all finished work shall be approved before construction of permanent protective finish or wall.

Sixth—The waterproofing shall be immediately protected by tile, brick, concrete or similar material as specified.

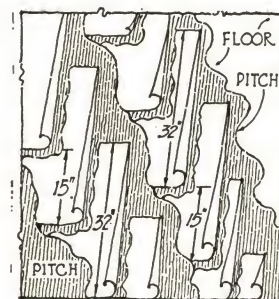
*** Architect's Note**—For five (5) ply construction six (6) alternating moppings of Pitch shall be required, and not less than two hundred and ten (210) pounds of Waterproofing Pitch shall be used for constructing each one hundred (100) square feet of completed waterproofing.

For four (4) ply construction five (5) alternating moppings of Pitch shall be required, and not less than one hundred and seventy-five (175) pounds of Waterproofing Pitch shall be used for constructing each one hundred (100) square feet of completed waterproofing.

For three (3) ply construction four (4) alternating moppings of Pitch shall be required, and not less than one hundred and forty (140) pounds of Waterproofing Pitch shall be used for constructing each one hundred (100) square feet of completed waterproofing.



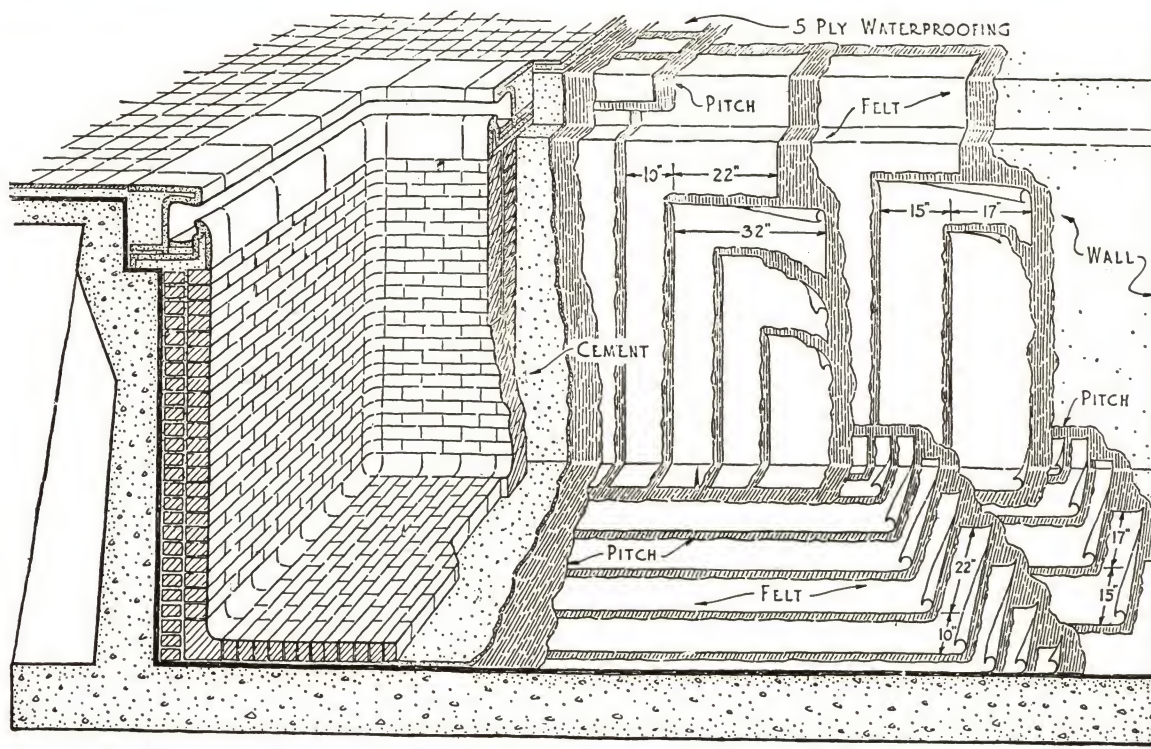
DETAIL FOR
3 PLY CONSTRUCTION



DETAIL FOR
4 PLY CONSTRUCTION

BARRETT WATERPROOFING SYSTEM

MEMBRANE METHOD FOR SWIMMING POOLS, SHOWER ROOMS, ETC.



IMPORTANT—All Masonry Shall Be Designed to Withstand Maximum Hydrostatic Pressure

SPECIFICATION

Note—The waterproofing shall be applied by a waterproofing contractor approved by THE BARRETT COMPANY, who has had experience in successfully applying this type of built-up waterproofing on swimming pool construction and who can refer to work of a similar nature that he has executed in a satisfactory manner.

PREPARATION OF SURFACES—All surfaces on which the waterproofing is to be applied shall be firm, smooth and dry, and free from loose materials, and shall be covered by a membrane of continuous waterproofing consisting of five (5) plies of Barrett Tarred Felt, as specified, and six (6) moppings of Barrett Waterproofing Pitch.

APPLICATION OF WATERPROOFING—First—Coat the entire surface on which the waterproofing is to be applied with Barrett Waterproofing Pitch into which, while hot, lay two (2) plies of Barrett Tarred Felt, lapping each sheet seventeen (17) inches over preceding one, mopping with Barrett Waterproofing Pitch the full seventeen (17) inch lap on each sheet, so that in no place shall Felt touch Felt.

Second—Coat the entire surface uniformly with Barrett Waterproofing Pitch into which, while hot, lay three (3) plies of Barrett Tarred Felt, lapping each sheet twenty-two (22) inches over preceding one, mopping with Barrett Waterproofing Pitch the full twenty-two (22) inch lap on each sheet, so that in no place shall Felt touch Felt. All Felt shall be thoroughly and smoothly embedded into the hot Pitch, shall be laid without wrinkles or buckles, and the finished membrane shall be free from pockets or blisters.

Third—Coat the entire surface with a heavy, uniform mopping of Barrett Waterproofing Pitch.

Fourth—Not less than two hundred and ten (210) pounds of Pitch shall be used for constructing each one hundred (100) square feet of completed waterproofing and the Pitch shall not be heated above four hundred (400) degrees Fahrenheit.

Fifth—At wall angles and footings and places where the waterproofing may be subjected to unusual strain, there shall be applied

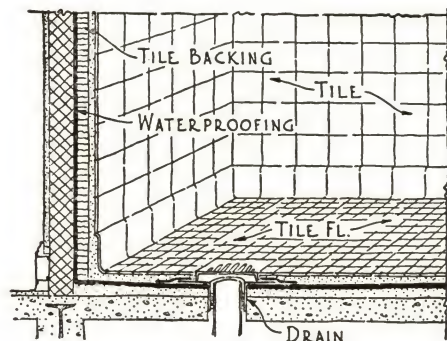
not less than two (2) extra reinforcing layers of Felt and alternating moppings of Pitch.

Sixth—Where laps are left to be connected, they shall be not less than ten (10) inches wide and shall be temporarily protected by one-half (½) inch troweled course of Portland Cement Mortar. When connections with laps are made, laps shall be carefully cleaned, dried, and mopped with Pitch before proceeding with the work.

Seventh—Care shall be taken not to injure the waterproofing membrane either during application or after completion, and all finished work shall be approved before construction of permanent protective finish.

Eighth—The waterproofing shall be immediately protected by tile, brick, concrete or similar material (as specified) and a continuous course of at least one-half (½) inch of Portland Cement Mortar, one (1) to two (2) mix, applied directly over the waterproofing membrane before such finished course is installed.

Note—Where swimming pool is provided with steam coil or hot water inlet, all such pipes shall be thoroughly insulated.

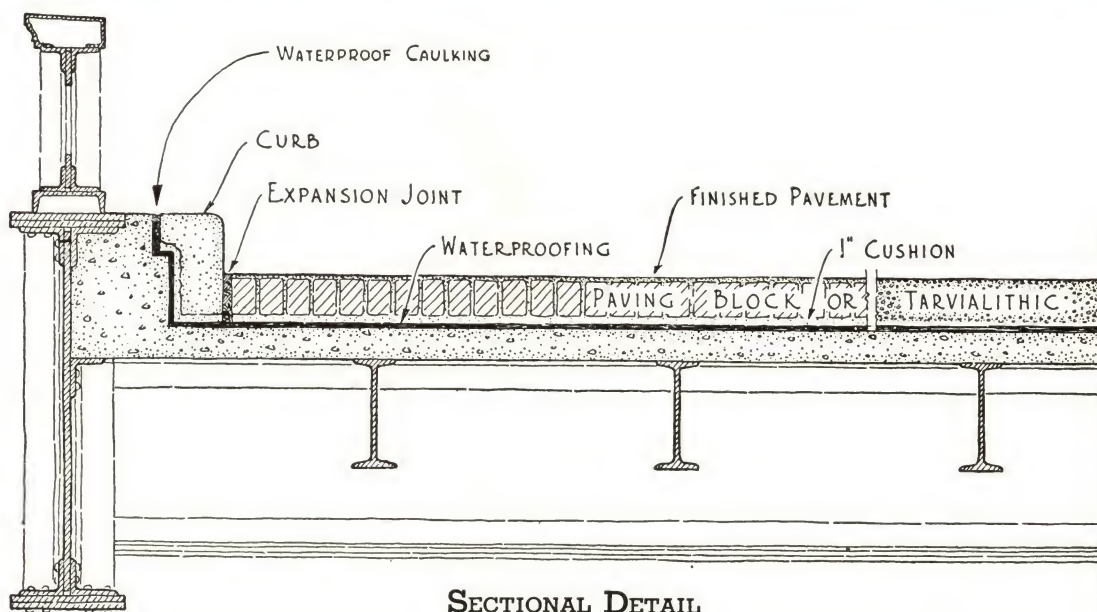


DETAIL FOR SHOWER ROOM

MEMBRANE METHOD FOR ELEVATED HIGHWAYS OR BRIDGES, RAMPS, ETC.

Barrett

SINCE
1854



This specification covers application for waterproofing membrane of pitch and felt. For alternate types and details, see page 52.

SPECIFICATION

Note—The waterproofing shall be applied by a Waterproofing Contractor approved by THE BARRETT COMPANY, who has had experience in successfully applying this type of Built-Up Waterproofing, and who can refer to work of a similar nature that he has executed in a satisfactory manner.

PREPARATION OF SURFACES—All surfaces on which the waterproofing is to be applied shall be firm, smooth, dry, and free from loose materials, and shall be covered by a membrane of continuous waterproofing consisting of plies of Barrett Tarred Felt, as specified and moppings of Barrett Waterproofing Pitch.

APPLICATION OF WATERPROOFING—First—Coat the entire surface on which the waterproofing is to be applied, with Barrett Waterproofing Pitch, into which, while hot, embed a layer of Barrett Tarred Felt, following this with alternating moppings of Pitch and layers of Felt until moppings of Pitch and layers of Felt have been applied. Each layer of Felt shall be thoroughly rubbed into the hot Pitch, and the entire surface shall be immediately mopped with Pitch to insure thorough embedment of the Felt. The Felt shall be laid without wrinkles or buckles, and the finished membrane shall be free from pockets or blisters.

Second—Spread over the entire surface a heavy, uniform coating of Barrett Waterproofing Pitch.

Third—Not less than pounds of Waterproofing Pitch shall be used for constructing each one hundred (100) square feet of completed waterproofing, and the Pitch shall not be heated above three hundred and fifty (350) degrees Fahrenheit.

Fourth—At wall angles, curbs, deflection joints, and places where the waterproofing may be subjected to unusual strain, there shall be applied not less than two (2) extra reinforcing layers of Felt and alternating moppings of Pitch.

Fifth—Where laps are left to be connected, they shall be not less than ten (10) inches wide and shall be temporarily protected by one-half (½) inch troweled course of Portland Cement Mortar. When connections with laps are made, laps shall be carefully cleaned, dried, and mopped with Pitch before proceeding with the work.

Sixth—Felt and Pitch membrane shall be carried up curbs, walls, and areas around columns, pipes, etc., not less than four (4) inches above the finished wearing surface.

Seventh—Care shall be taken not to injure the waterproofing membrane either during application or after completion, and all finished work shall be approved before construction of permanent finished wearing surface.

Eighth—The finished wearing surface as specified shall be immediately installed over the waterproofing membrane.

Note No. 1—Expansion joints shall be provided throughout the finished wearing surface. All such expansion joints shall extend from the top of the finished wearing surface through to the waterproofing membrane.

Note No. 2—Where outlets or scuppers are provided as indicated on drawings, they shall be placed level with the waterproofing course and properly felt-stripped.

***Architect's Note**—For five (5) ply construction, Felt shall be laid after the two (2), two (2) and one (1) method, with alternating moppings of Waterproofing Pitch throughout. Not less than two hundred and ten (210) pounds of Waterproofing Pitch shall be used for constructing each one hundred (100) square feet of completed Waterproofing.

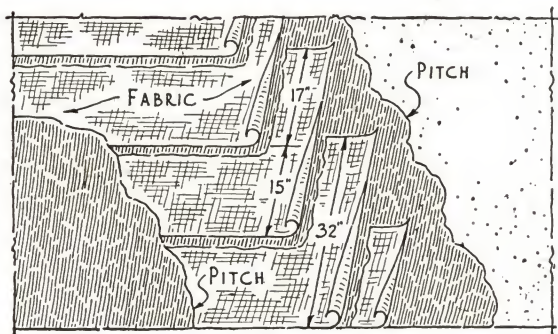
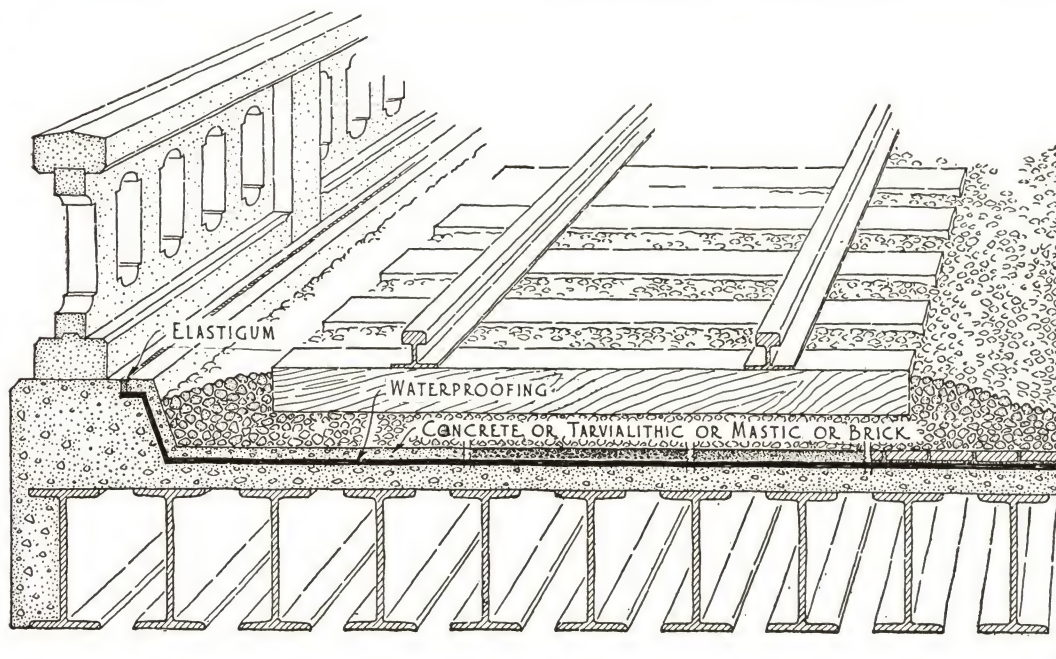
For four (4) ply construction not less than one hundred and seventy-five (175) pounds of Waterproofing Pitch shall be used for constructing each one hundred (100) square feet of completed Waterproofing.



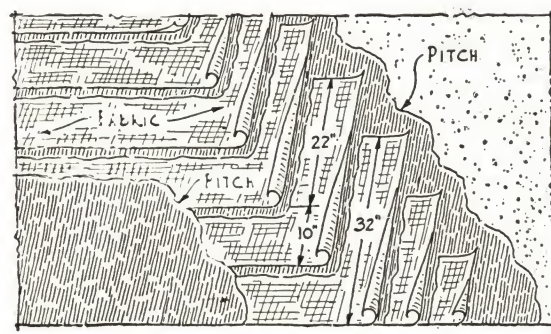
West Side Elevated Express Highway, New York, N. Y.
750,000 sq. ft. of Barrett waterproofing

BARRETT WATERPROOFING SYSTEM

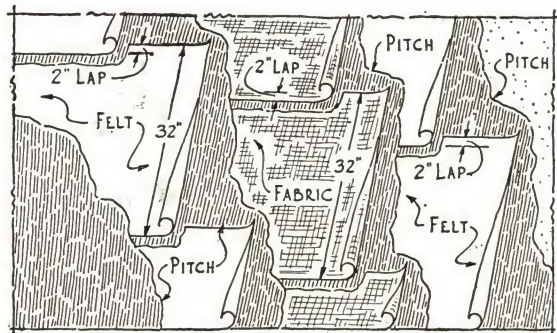
MEMBRANE METHOD FOR SOLID DECK RAILROAD BRIDGES



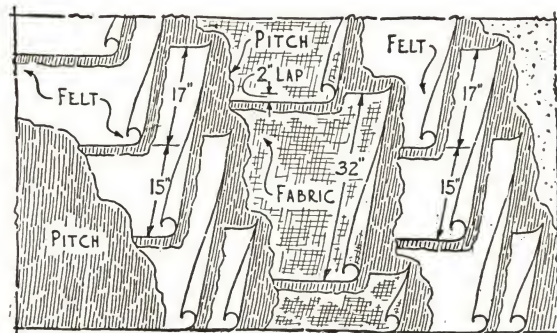
FABRIC TYPE - 2 PLY



FABRIC TYPE - 3 PLY



COMBINATION FELT & FABRIC - 3 PLY

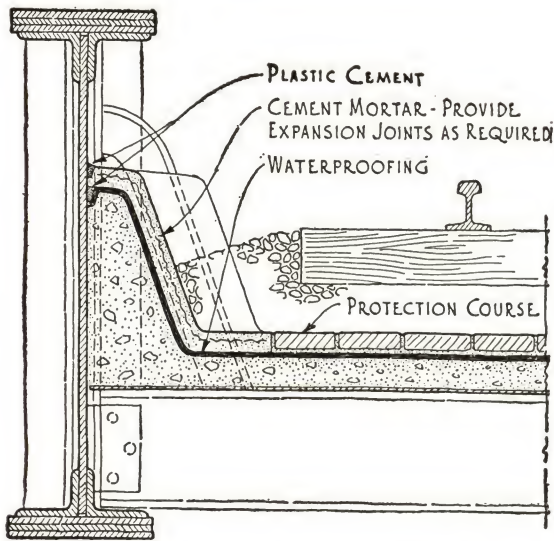


COMBINATION FELT & FABRIC - 5 PLY

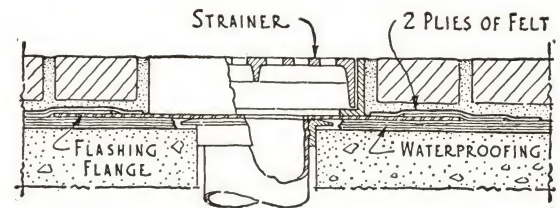
FLASHING DETAILS FOR SOLID DECK RAILROAD BRIDGES

Barrett

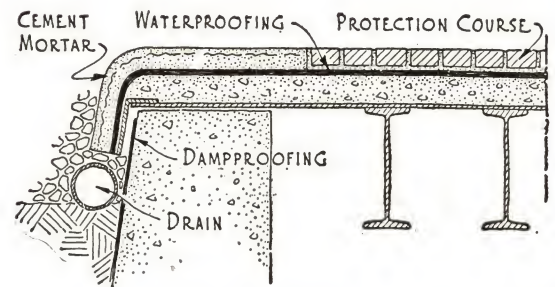
SINCE
1854



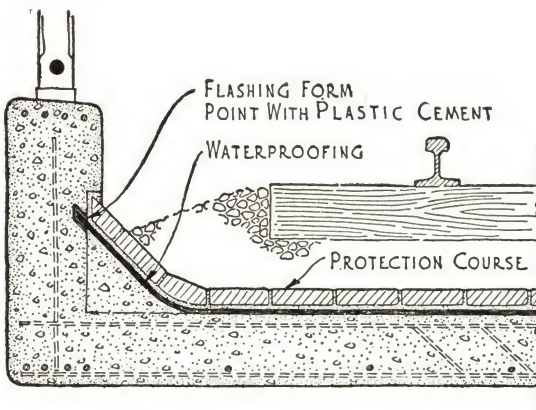
**METHOD OF FLASHING
AT STEEL GIRDERS**



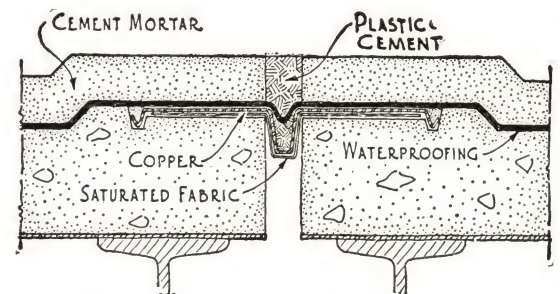
DETAIL OF DECK DRAIN



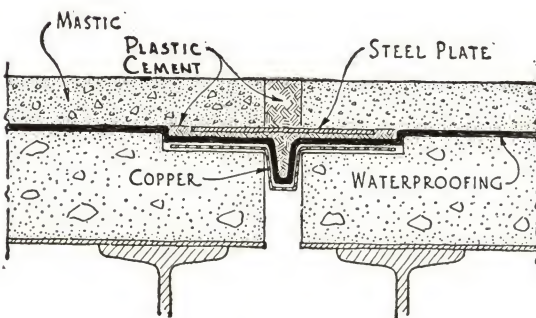
**DETAIL OF WATERPROOFING
AT EXPANSION END**



**METHOD OF FLASHING
AT CONCRETE CURBS**



**DETAIL OF EXPANSION JOINT
CONCRETE PROTECTION COURSE**



**DETAIL OF EXPANSION JOINT
MASTIC PROTECTION COURSE**

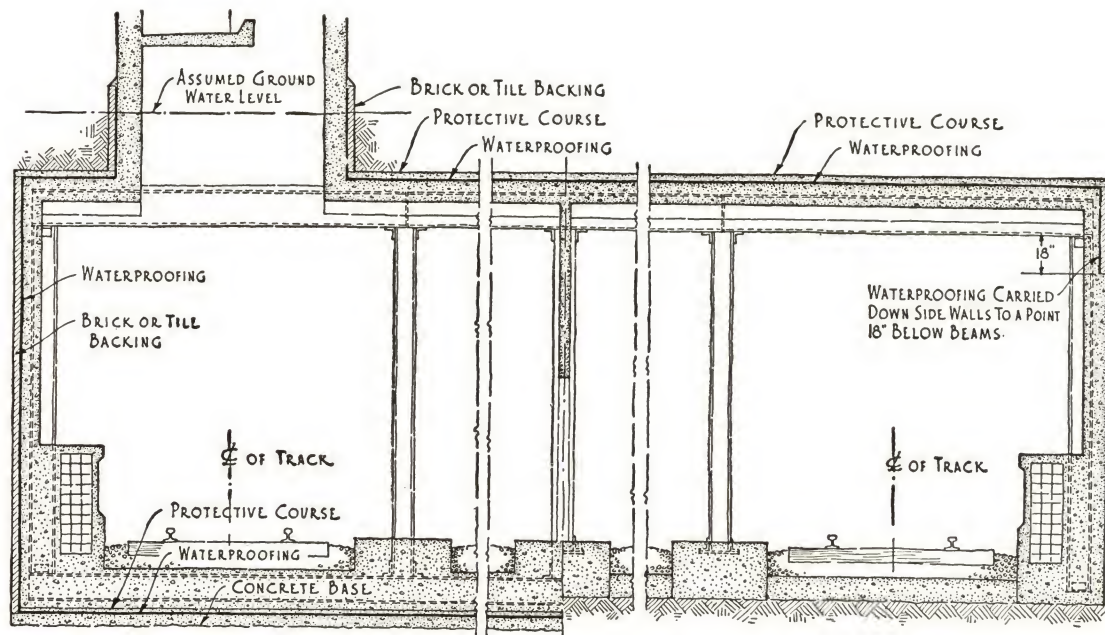
The membrane method of waterproofing is recommended for use on solid deck railroad bridges or other bridges, ramps, highways, etc.

The types detailed conform to methods recommended by the American Railway Engineering Association, and incorporate the use of Barrett Waterproofing Pitch and/or Tarred Felt and/or Waterproofing Fabric.

Architect or Engineer shall clearly indicate type to be used and specifications shall follow A.R.E.A. standards or form as outlined on page 51.

BARRETT WATERPROOFING SYSTEM

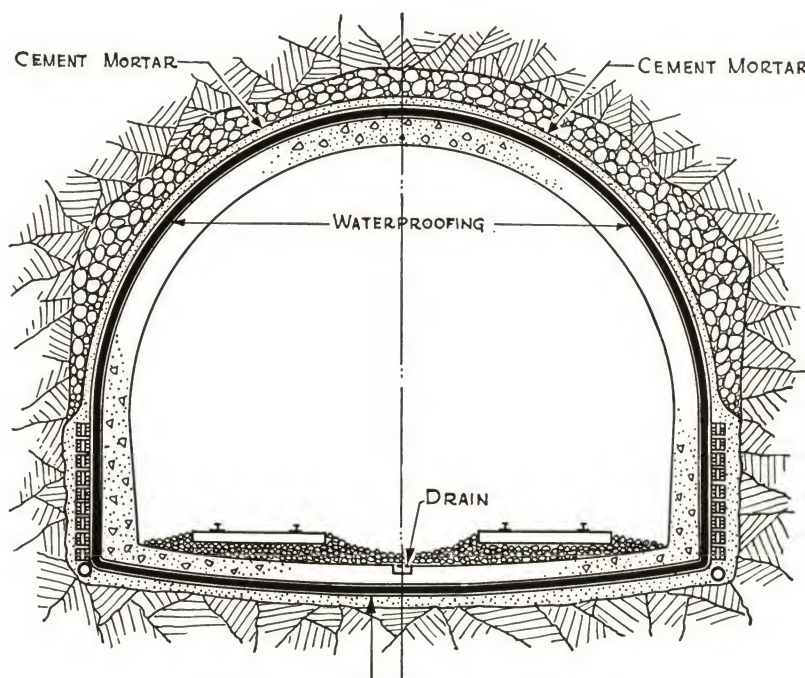
MEMBRANE METHOD FOR UNDERGROUND SUBWAYS, TUNNELS, ETC.



1/2 SECTION SHOWING PROTECTION
AGAINST WATER PRESSURE

1/2 SECTION SHOWING PROTECTION
AGAINST SURFACE WATER

TYPICAL SUBWAY SECTIONS



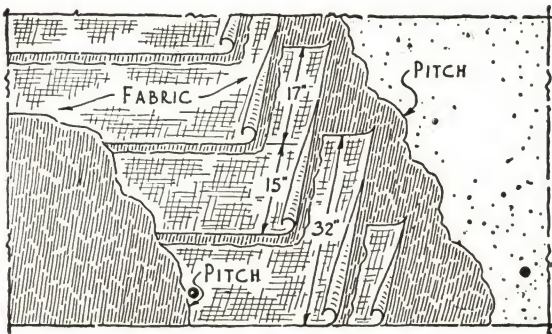
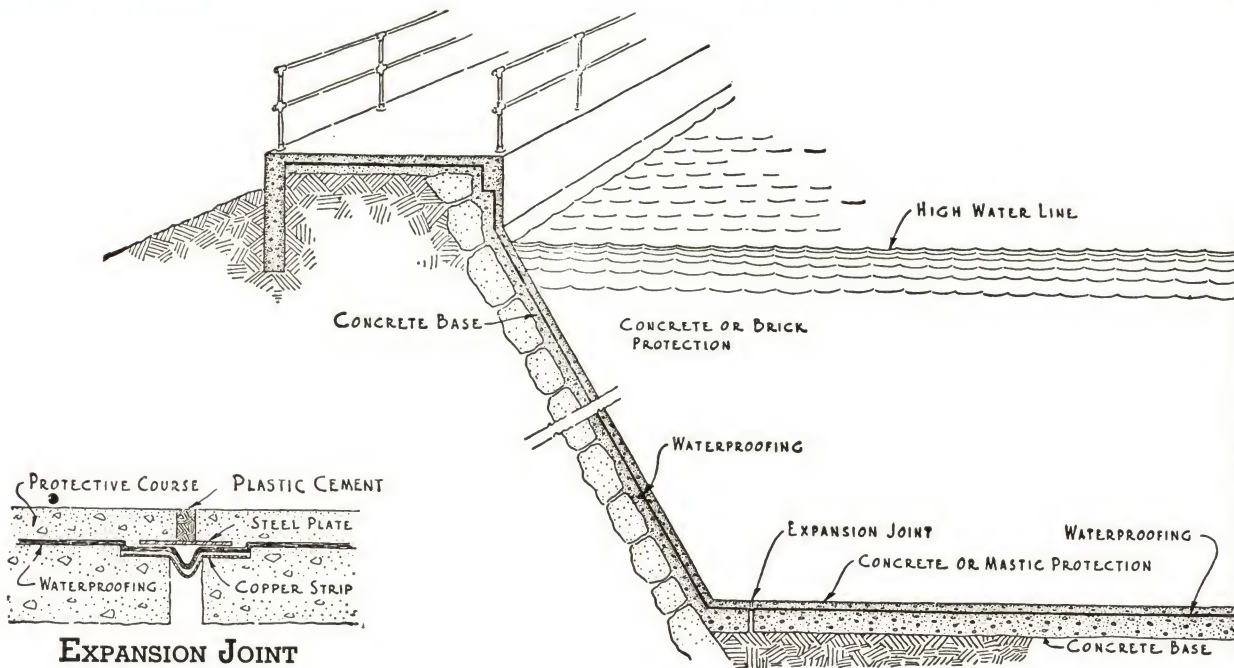
TYPICAL TUNNEL SECTION

Note—For types of membrane waterproofing and specification form, refer to pages 49 and 51.

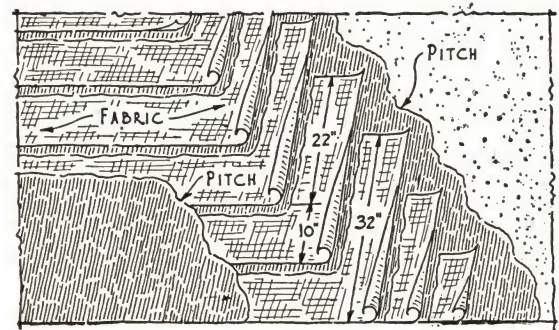
MEMBRANE METHOD FOR RESERVOIRS, BASINS, ETC.

Barrett

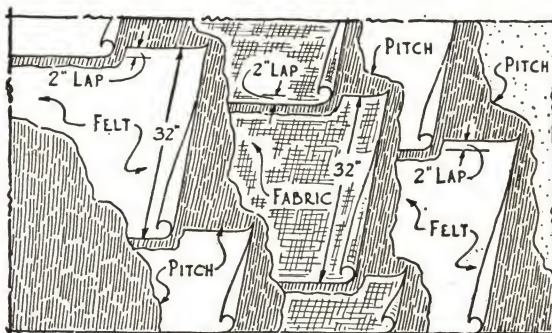
SINCE
1854



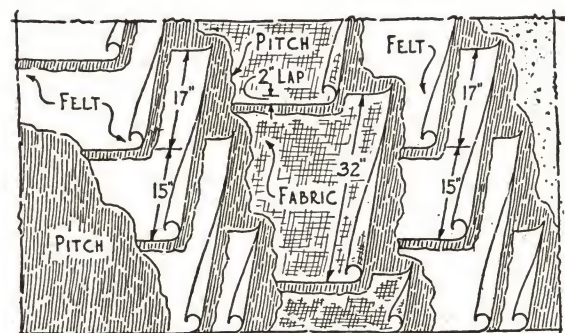
FABRIC TYPE - 2 PLY



FABRIC TYPE - 3 PLY



COMBINATION FELT & FABRIC - 3 PLY

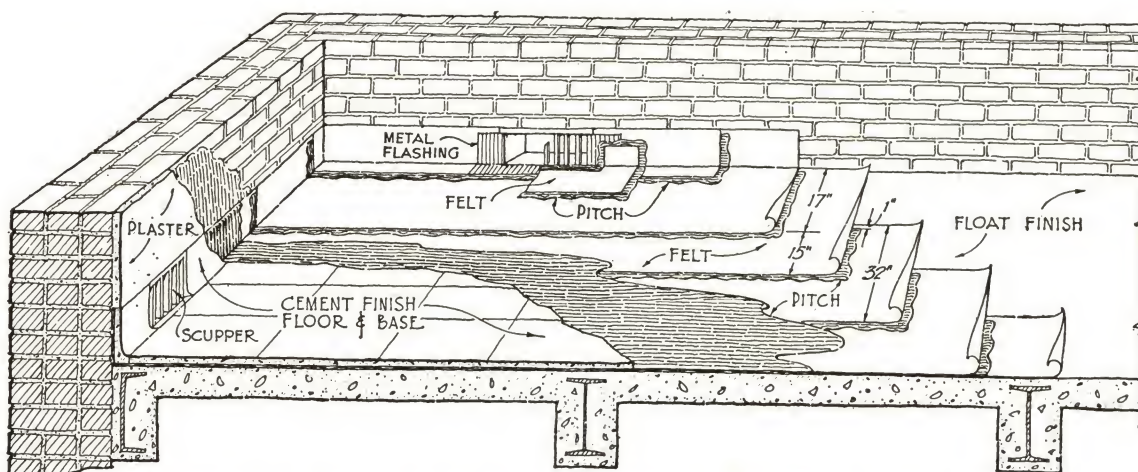


COMBINATION FELT & FABRIC - 5 PLY

Note—For additional types of membrane waterproofing and specification form, refer to page 50.

BARRETT WATERPROOFING SYSTEM

MEMBRANE METHOD FOR SUPERSTRUCTURE, CONCRETE OR WOOD FLOORS



This System of Waterproofing is Designed for the Purpose of Providing a Factor of Safety Against Water Damage From Operation of Sprinkling System, or in Case of Fire, Washing of Floors, etc.

SPECIFICATION

First—Over the entire surface lay two (2) plies of Barrett Tarred Felt, as specified, lapping each sheet seventeen (17) inches over preceding one, mopping with Barrett Waterproofing Pitch to within one (1) inch of upper edge, after which spread over the entire surface a heavy, uniform coating of Specification Pitch.

Second—Not less than sixty (60) pounds of Pitch shall be used for constructing each one hundred (100) square feet of completed waterproofing, and the Pitch shall not be heated above four hundred (400) degrees Fahrenheit.

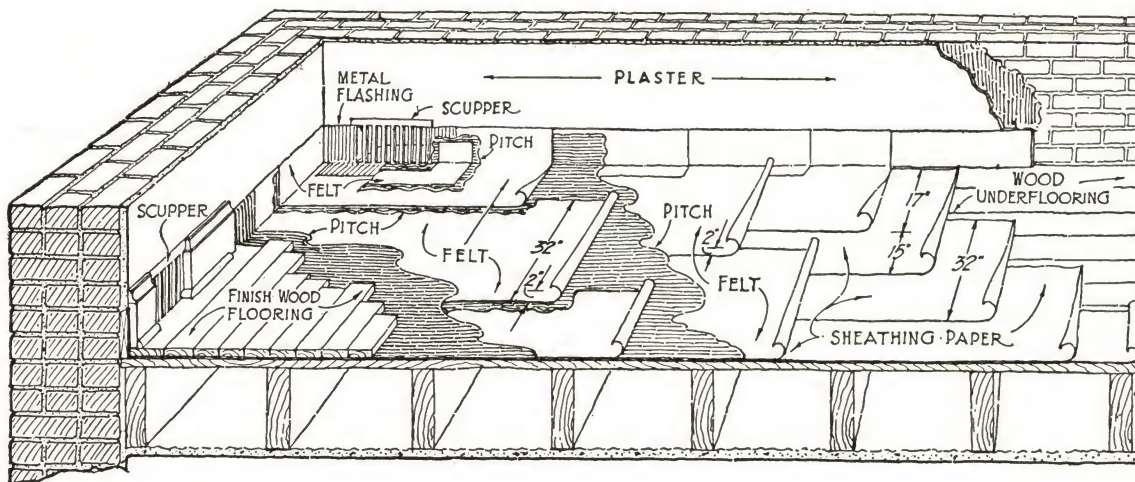
Third—At places where the waterproofing may be subjected to

unusual strain, there shall be applied not less than two (2) extra reinforcing layers of Felt and alternating moppings of Pitch.

Fourth—Felt and Pitch membrane shall be carried up walls and areas around columns, pipes, etc., not less than three (3) inches above the finished flooring, and shall be properly fastened in place and protected.

Fifth—Care shall be taken not to injure the waterproofing membrane either during application or after completion, and all finished work shall be approved before construction of permanent finished flooring.

Sixth—The waterproofing shall be immediately protected by the application of the finished flooring as specified.



SPECIFICATION

First—Over the entire surface lay two (2) thicknesses of sheathing paper or unsaturated felt, weighing not less than five (5) pounds per one hundred (100) square feet, lapping each sheet seventeen (17) inches over the preceding one, and nail as often as is necessary to hold in place.

Second—Over the entire surface lay one (1) ply of Barrett Tarred Felt as specified, lapping each sheet two (2) inches over preceding one and nail as often as is necessary to hold in place.

Third—Coat the entire surface uniformly with Barrett Waterproofing Pitch, after which over the entire surface lay one (1) ply of Barrett Tarred Felt, lapping each sheet two (2) inches over preceding one, and mopping the two (2) inch lap on each sheet with Barrett Waterproofing Pitch, so that at no place shall Felt touch Felt. Care shall be taken that all layers of Felt break joints with underlying layers.

Fourth—Over the entire surface spread a heavy, uniform coating of Barrett Waterproofing Pitch, into which, while hot, embed floor plank.

Fifth—Not less than sixty (60) pounds of Barrett Waterproofing Pitch shall be used for constructing each one hundred (100) square feet of completed waterproofing, and the pitch shall not be heated above four hundred (400) degrees Fahrenheit.

Sixth—(Same as paragraph "Third" above).

Seventh—(Same as paragraph "Fourth" above).

Eighth—(Same as paragraph "Fifth" above).

Ninth—The waterproofing shall be immediately protected by the application of the finished flooring as specified. Each plank shall be set in permanent position before nailing to prevent the nails from tearing the waterproofing membrane, and in no case shall the nails penetrate the flooring upon which the waterproofing rests.

SECTION 6

DAMPPROOFING AGAINST MOISTURE

DAMPPROOFING ABOVE OR BELOW GRADE

Protecting Against Dampness

Dampproofing is designed to prevent the penetration of moisture or dampness, and may be distinguished from waterproofing in that constant "heads" or hydrostatic pressures are not involved.

Dampproofing may be generally visualized as applying to walls or surfaces exposed to moisture above grade, and to substructure surfaces where dampness—and not hydrostatic pressure—exists. The materials or methods employed should provide for the primary function of dampproofing systems, that of keeping walls dry, and should prevent discoloration.

Interior Coatings and Plaster Bond

Interior finishes should provide for the securing of a firm bond between the walls, to which the dampproofing is applied, and the succeeding coats of plaster or other interior wall finish.

Tested Methods

The dampproofing products and application methods referred to in these pages have been developed out of extensive research and experience. They provide for a continuity of covering, retard discoloration and assure a firm bond. The specifications outlined are accepted as standard practice—adaptable to structures during construction or after erection. Best results may be obtained by following the specification procedure outlined and by the employment of experienced applicators in the execution of the work.



First National Bank, New York, N. Y.
Roofed, waterproofed and dampproofed with
Barrett materials

FOR DAMPPROOFING FOUNDATION WALLS, RETAINING WALLS AND ABUTMENTS Pitch Coating Method and Hydronon Method

SPECIFICATION FOR PITCH COATING METHOD

CONDENSED SPECIFICATION

All exterior surfaces and footings, of foundation walls, retaining walls and abutments shall be dampproofed by the application of one (1) priming coat of Carbosota and two (2) moppings of Waterproofing Pitch, both applied in strict accordance with the specifications published by THE BARRETT COMPANY.

COMPLETE SPECIFICATION

PREPARATION OF SURFACES—All surfaces to be dampproofed shall be dry and clean and free from dirt, dust or foreign materials. All voids, cracks or open joints in the masonry shall be properly pointed up with Portland Cement Mortar before application of the dampproofing materials.

APPLICATION OF DAMPPROOFING—First—Apply over the entire surface to be dampproofed, a uniform priming coat of Barrett Carbosota, Grade 1, Creosote Oil.

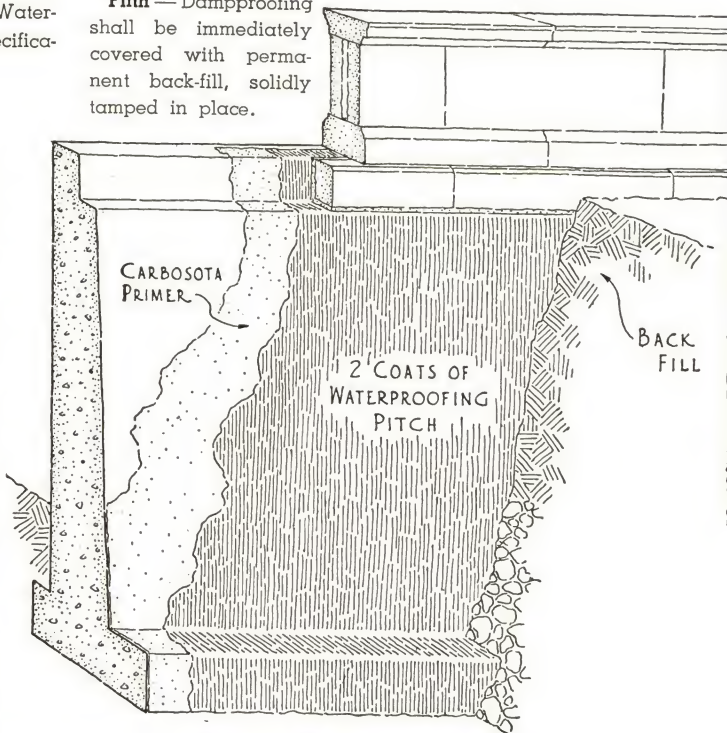
Second—The priming coat of Carbosota shall be allowed to sufficiently penetrate the masonry, and before thoroughly dry, apply a uniform mop coating of Specification Waterproofing Pitch. The Pitch shall be applied in such manner as will obtain a heavy, continuous coating of Waterproofing Pitch over the entire surface, filling all cracks, voids and crevices and upon completion shall present a dry, glossy appearance.

Third—After the entire surface has been completely covered with the first mopping, follow immediately with second heavy, uniform mopping of Specification Waterproofing Pitch.

Fourth—Not less than one (1) gallon of Carbosota and eighty (80) pounds of Waterproofing Pitch shall be used for

each one hundred (100) square feet of completed dampproofing and the Pitch shall not be heated above three hundred and fifty (350) degrees Fahrenheit.

Fifth—Dampproofing shall be immediately covered with permanent back-fill, solidly tamped in place.



PITCH COATING METHOD

SPECIFICATION FOR HYDRONON METHOD

CONDENSED SPECIFICATION

All exterior surfaces and footings of foundation walls, retaining walls and abutments shall be dampproofed by the application of two coats of Barrett Hydronon, applied in strict accordance with the specifications published by THE BARRETT COMPANY.

COMPLETE SPECIFICATION

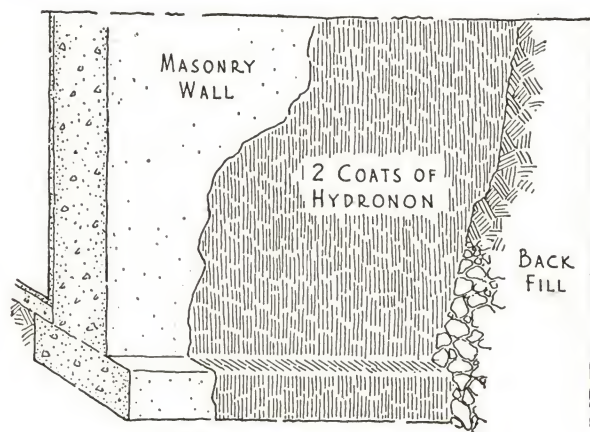
PREPARATION OF SURFACES—All masonry surfaces to which Hydronon is to be applied shall be thoroughly dry and free of all dirt, grease, excess cement mortar or other foreign matter that might interfere with its adhesion and penetration. Any open areas in the concrete caused by segregation of coarse aggregates shall be filled in. Rubblestone construction shall be brought to an even surface with cement mortar. All holes and voids in masonry construction shall be carefully filled with Portland Cement Mortar, and all joints struck flush.

APPLICATION OF DAMPPROOFING—First—The exterior surfaces and footings of foundation walls, retaining walls and abutments, shall be dampproofed by the application of two (2) coats of Barrett Hydronon applied either by brush or by spray.

Second—The Hydronon shall be applied thoroughly and evenly from the footings to the soil or grade level so that all surfaces present a uniform black appearance. The second coat shall be brushed or sprayed at right-angles to the first coat so as to assure

thorough coverage of the entire surface with a continuous impervious film without holidays, pinholes or spots.

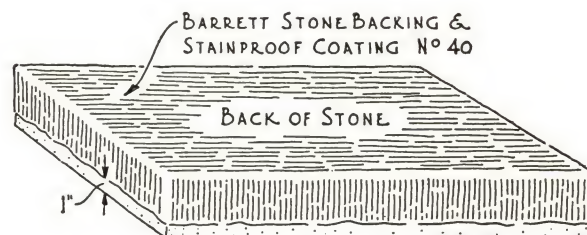
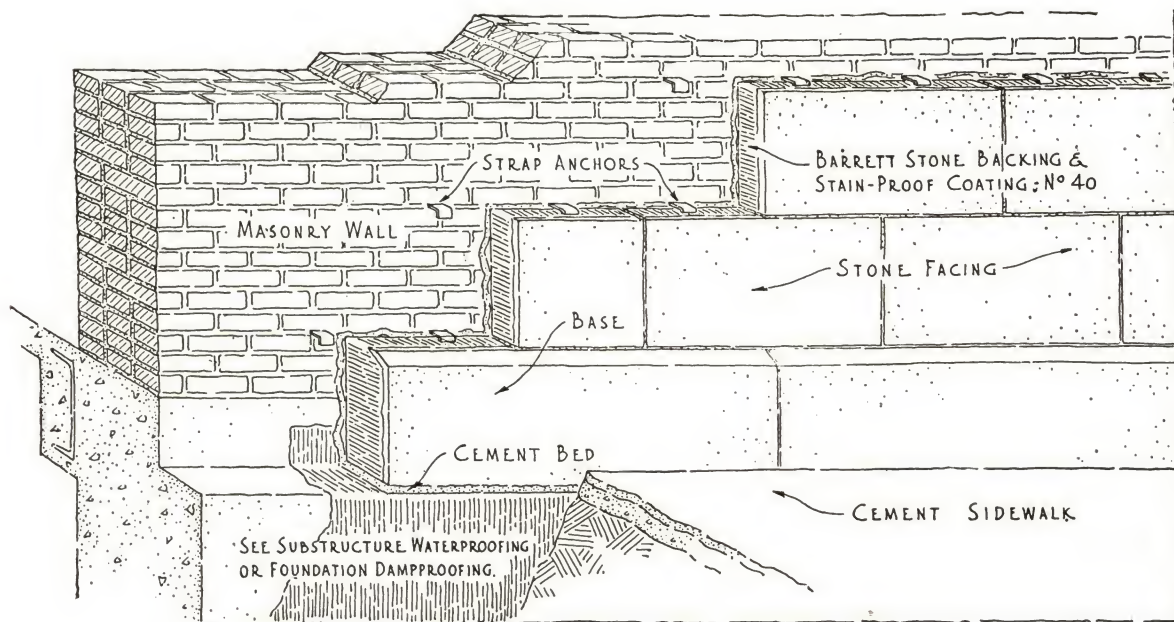
Third—Twenty-four (24) hours shall elapse between the first and second coats. Back-filling of the soil, where required, shall be commenced not more than seven (7) days nor less than one (1) day after the final application of Hydronon.



HYDRONON METHOD

STONE BACKING AND STAINPROOFING FOR EXTERIOR FACE STONE Barrett Stone Backing & Stainproof Coating No. 40

Barrett
SINCE
1854



DETAIL OF COATED STONE
BEFORE SETTING

SPECIFICATION

CONDENSED SPECIFICATION

All exterior face stone shall be given one (1) thorough coat of Barrett Stone-Backing and Stainproof Coating No. 40, applied to the back and sides of each stone in strict accordance with the specifications published by THE BARRETT COMPANY.

COMPLETE SPECIFICATION

First—All exterior face stone shall be given one (1) thorough coat of Barrett Stone-Backing and Stainproof Coating No. 40, applied either by brush or compressed air spray, to the top, bedding, back and sides of each stone to within one (1) inch of its outer edge. All Lewis holes and anchor recesses shall be thoroughly coated before setting the stones in place.

Second—The surfaces of the stone to be stainproofed shall be dry,

and free from any oil, grease, or other foreign matter that might interfere with the proper adhesion and penetration of the coating.

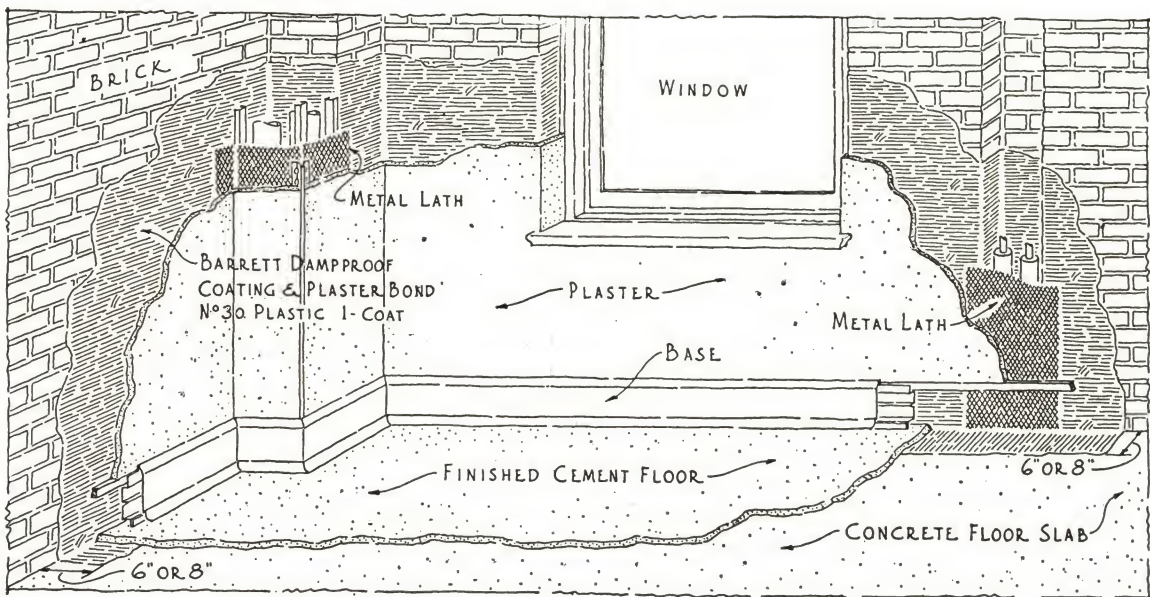
Third—Where the stones are treated at the quarry, each unit before being set in place on the job, shall be examined for breaks in the coating and touched-up where required.

Fourth—At least twelve (12) hours shall elapse between the application of the Stainproof Coating and the setting of the stone.

Architect's Note—Barrett Stone-Backing and Stainproof Coating is a dampproofing and protective coating whose use is defined in its name. It is applied to the back and four sides of stone and cast stone used for the facing of buildings, such as marble, limestone, Bedford stone, etc. It effectively prevents the staining and discoloration of the stone frequently caused by the chemical reaction set up by the lime present in cement mortar.

BARRETT DAMPPROOFING SYSTEM

DAMPPROOF COATING AND PLASTER BOND FOR MASONRY WALLS ABOVE GRADE. PLASTIC TYPE.



CONDENSED SPECIFICATION

The interior surfaces of all exterior walls of brick (or hollow tile), above grade, shall be dampproofed with Barrett Dampproof Coating and Plaster Bond No. 30 Plastic, applied in one trowel coat, in strict accordance with the specifications published by THE BARRETT COMPANY.

COMPLETE SPECIFICATION

MASONRY—All holes and voids in the wall surfaces to be dampproofed shall be carefully filled with Portland Cement Mortar and all joints struck flush. The walls shall be thoroughly dry, and free from oil, grease, excess cement mortar or other foreign matter that might interfere with the bonding and penetrating properties of the dampproof coating.

APPLICATION OF DAMPPROOFING—First—The interior surfaces of all exterior brick (or hollow tile) walls, including reveals of doors and windows, column coverings and pipe chases, shall be dampproofed with one (1) thorough and uniform trowel coat, of an average thickness of one-sixteenth (1/16) inch, using Barrett Dampproof Coating and Plaster Bond No. 30 Plastic.

Second—The single coat of Plastic Dampproofing shall be applied evenly and carefully, being thoroughly worked into all joints, crevices, cracks between mortar and brick, cut-outs, wall chases and recesses, so as to form a continuous, impervious coating without holidays, pinholes or brown spots.

Third—The Dampproof Coating shall be applied before any pipes or metal work are installed; and it shall completely cover the inside surfaces of all walls, as above, being carried out six (6) to eight (8) inches on rough floor slabs.

PLASTERING—The rough or scratch coat of wall plaster shall be applied directly to the dampproofing material not less than twenty-four (24) hours nor more than seven (7) days after the latter has been applied to the walls.

Note: Do not use Barrett Dampproof Coatings on ceilings. Where these materials are to be used in conjunction with stucco or Portland Cement Mortar wall finishes, special application instructions shall be obtained either from the Architect or from THE BARRETT COMPANY.

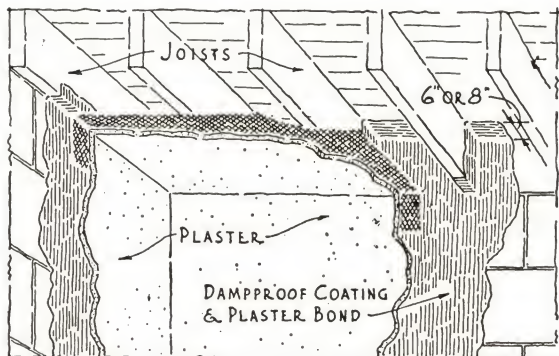
DAMPPROOF COATING & PLASTER BOND METHOD ABOVE GRADE

CONDENSED SPECIFICATION FOR EXTERIOR BRICK WALLS—

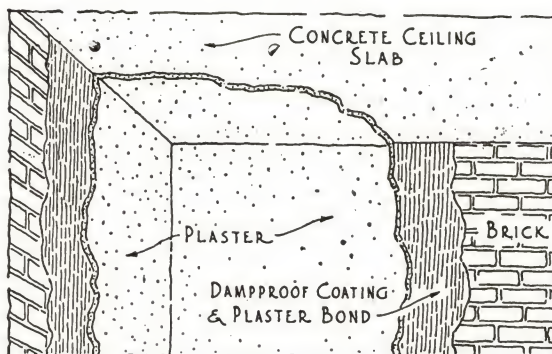
The interior surfaces of all exterior brick walls, above grade, shall be dampproofed with Barrett Dampproof Coating and Plaster Bond No. 30 Plastic applied strictly in accordance with the specifications published by THE BARRETT COMPANY.

CONDENSED SPECIFICATION FOR HOLLOW TILE WALLS—

The interior surfaces of all exterior walls of hollow tile, above grade, shall be dampproofed with one (1) coat of Barrett Dampproof Coating and Plaster Bond No. 30 Plastic applied strictly in accordance with the specifications published by THE BARRETT COMPANY.



SHOWING DAMPPROOF COATING
CARRIED OUT ON WOOD JOIST CEILING

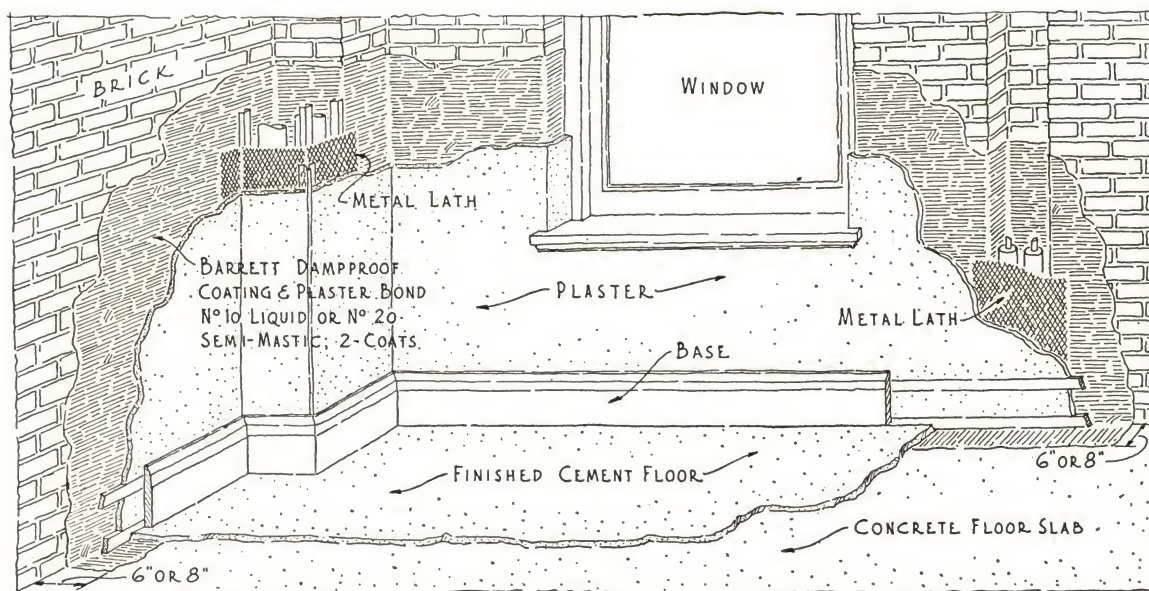


SHOWING DAMPPROOF COATING
CARRIED UP TO CEILING

DAMPPROOF COATING AND PLASTER BOND FOR MASONRY WALLS ABOVE GRADE. LIQUID COATING and SEMI-MASTIC TYPES.

Barrett

SINCE
1854



PLASTER BOND METHOD FOR BRICK WALLS

Barrett Dampproof Coating and Plaster Bond No. 10 Liquid or No. 20 Semi-Mastic

CONDENSED SPECIFICATION

The interior surfaces of all exterior brick walls, above grade, shall be dampproofed with Barrett Dampproof Coating and Plaster Bond No. 10 Liquid (or No. 20 Semi-Mastic), applied strictly in accordance with the specifications published by THE BARRETT COMPANY.

COMPLETE SPECIFICATION

MASONRY—All holes and voids in the wall surfaces to be dampproofed shall be carefully filled with Portland Cement Mortar and all joints struck flush. The walls shall be thoroughly dry, and free from oil, grease, excess cement mortar or other foreign matter that might interfere with the bonding and penetrating properties of the dampproof coating.

APPLICATION ON DAMPPOOFING—**First**—The interior surfaces of all exterior walls of brick, including reveals of doors and windows, column coverings and pipe chases, shall be dampproofed with two (2) thorough applications of Barrett Dampproof Coating and Plaster Bond No. 10 Liquid, applied by brush or by compressed air spray (or with two (2) thorough applications of Barrett Dampproof Coating and Plaster Bond No. 20 Semi-Mastic, applied by heavy brush, mop or squeegee).

Second—The first coat shall be applied thoroughly and evenly until the surface presents a uniform black appearance, care being taken to completely coat all joints, crevices, cut-outs, wall chases and recesses, so as to form a continuous, impervious film without holidays, pinholes or brown spots.

Third—After the first coat of dampproofing has been applied, at least twelve (12) hours shall elapse before application of the final coat.

Fourth—The dampproofing shall be applied before any pipes or metal work are installed, and both coats shall completely cover the inside surfaces of all walls, as above, being carried out six (6) to eight (8) inches on rough floor slabs.

PLASTERING—The rough or scratch coat of wall plaster shall be applied directly to the final coat of dampproofing material, but not less than twenty-four (24) hours nor more than seven (7) days after the latter has been applied.

Note: Do not use Barrett Dampproof Coatings on ceilings. Where these materials are to be used in conjunction with stucco or Portland Cement Mortar wall finishes, special application instructions shall be obtained either from the Architect or from THE BARRETT COMPANY.

PLASTER BOND METHOD FOR HOLLOW TILE WALLS

Barrett Dampproof Coating and Plaster Bond No. 10 Liquid or No. 20 Semi-Mastic

CONDENSED SPECIFICATION

The interior surfaces of all exterior walls of hollow tile, above grade, shall be dampproofed with one (1) coat of Barrett Dampproof Coating and Plaster Bond (No. 10 Liquid, No. 20 Semi-Mastic, or No. 30 Plastic) applied strictly in accordance with the specifications published by THE BARRETT COMPANY.

COMPLETE SPECIFICATION

MASONRY—Same as for specification at top of page.

APPLICATION OF DAMPPOOFING—**First**—The interior surfaces of all exterior walls of hollow tile, including reveals of doors and windows, column coverings and pipe chases, shall be dampproofed with one (1) thorough application of Barrett Dampproof Coating and Plaster Bond (No. 10 Liquid, No. 20 Semi-Mastic or No. 30 Plastic).

Second—No. 10 Liquid shall be applied by brush or by compressed air spray. No. 20 Semi-Mastic shall be applied by heavy brush, mop or squeegee. No. 30 Plastic shall be applied by trowel to an average thickness of one-sixteenth (1/16) inch.

Third—The coating shall be applied thoroughly and evenly until the surface presents a uniform black appearance, care being taken to completely coat all joints, crevices, cut-outs, wall chases and recesses, so as to form a continuous, impervious film without holidays, pinholes or brown spots.

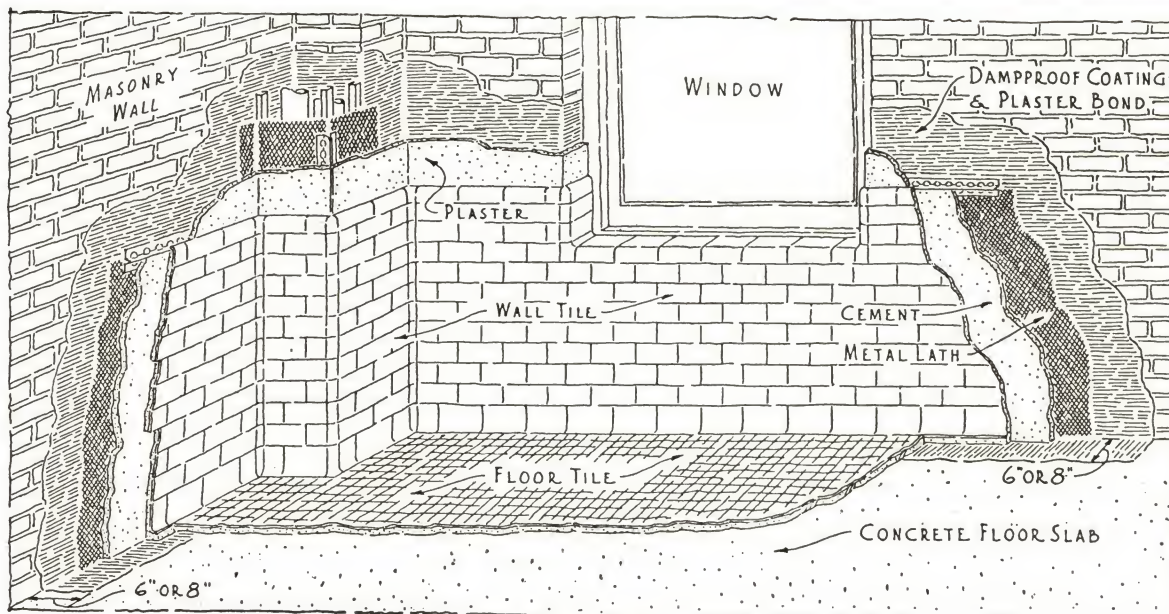
Fourth—Same as "Fourth" at top of page.

PLASTERING—Same as at top of page.

Note—Same as at top of page.

BARRETT DAMPPOOFING SYSTEM

DAMPPROOF COATING AND PLASTER BOND FOR MASONRY WALLS ABOVE GRADE— TILE FINISH.



METAL LATH METHOD

SPECIFICATION

CONDENSED SPECIFICATION

The interior surfaces of all exterior walls of brick or hollow tile, which are to be finished in tile, shall be dampproofed with Barrett Dampproof Coating and Plaster Bond No. 10 Liquid, No. 20 Semi-Mastic or No. 30 Plastic, applied strictly in accordance with the specifications published by THE BARRETT COMPANY, metal lath, or metal clips being provided, as specified, as additional support for the finished tile walls.

COMPLETE SPECIFICATION

MASONRY—All holes and voids in the wall surfaces to be dampproofed shall be carefully filled with Portland Cement Mortar and all joints struck flush. The walls shall be thoroughly dry and free from oil, grease, excess cement mortar or other foreign matter that might interfere with the bonding and penetrating properties of the dampproof coating.

APPLICATION OF DAMPPROOFING—First—The interior surfaces of all exterior walls of brick, including reveals of doors and windows, column coverings and pipe chases, shall be dampproofed with two (2) thorough applications of Barrett Dampproof Coating and Plaster Bond No. 10 Liquid applied by brush or by compressed air spray; or with two (2) thorough applications of Barrett Dampproof Coating and Plaster Bond No. 20 Semi-Mastic applied by heavy brush, mop or squeegee; or by one (1) thorough trowel coat of Barrett Dampproof Coating and Plaster Bond No. 30 Plastic applied to an average thickness of one-sixteenth (1/16) inch.

Note: Where walls are of hollow tile, only one (1) coat of No. 10 Liquid or No. 20 Semi-Mastic shall be required.

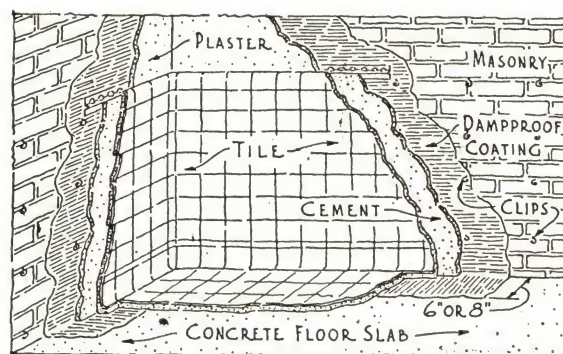
Second—The dampproofing shall be applied thoroughly and evenly until the surface presents a uniform black appearance, care being taken to completely coat all joints, crevices, cut-outs, wall chases, recesses, etc., so as to form a continuous, impervious film without holidays, pinholes or brown spots. The dampproof coating shall be applied before any pipes or metal work are installed and shall completely cover the inside surfaces of all walls, as above, being carried out six (6) to eight (8) inches on rough floor slabs.

Third—Where two (2) coats are required, at least twelve (12) hours shall elapse between the first and second applications.

METAL LATH—Metal lath, as specified by the Architect, shall be applied to all wall surfaces which have been dampproofed as above and which are to be finished with tile. In the case of pipe chases and cut-outs in which piping, conduits, or metal work have been installed, the metal lath shall be placed on the outside of and around such piping, conduits or metal work so that the lath will provide a backing for the reception of the wall tile and will partially support its weight.

APPLICATION OF TILE—The tile shall be applied to the metal lath, as above, by means of Portland Cement Mortar.

ALTERNATE OR CLIP METHOD—In this method, metal clips of a size, shape and spacing as may be specified by the Architect, are inserted into the brick or hollow tile wall as it is constructed. The dampproof coating is applied, as below, to the interior surfaces of the walls; and the tile set in cement mortar placed directly over the dampproof coating, the metal clips serving, in addition to the natural bonding properties of the dampproof coating, to partially support the tile.

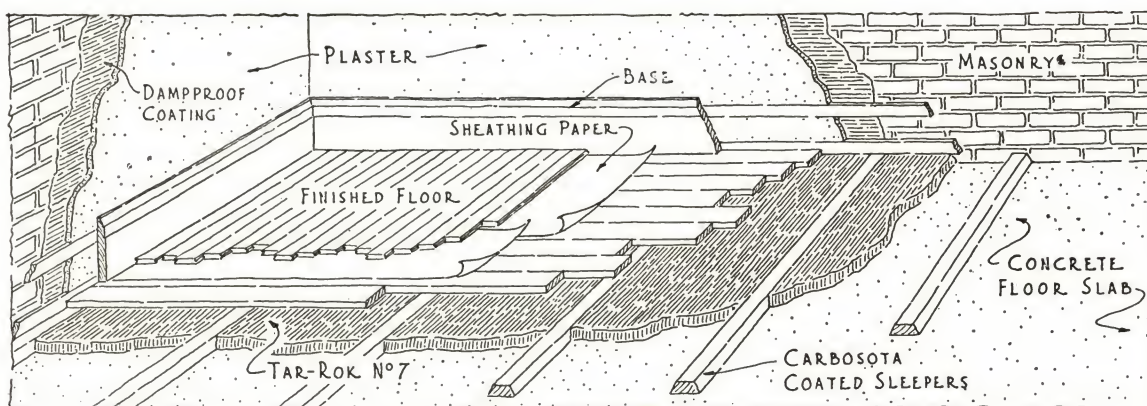


CLIP METHOD

DAMPPROOFING AND WOOD PRESERVATIVE METHOD FOR FLOORS

Barrett

SINCE
1854



TAR-ROK & CARBOSOTA METHOD FOR WOOD FLOORS

SPECIFICATION FOR TAR-ROK METHOD

CONCRETE FLOOR BASE—The concrete floor base shall be dry and leveled off to the proper grade.

WOOD SLEEPERS—All wood sleepers used in floor construction shall be given one preservative coating of Carbosota applied either by brush or by immersion, to permit thorough penetration into the wood. The wood sleepers shall then be fastened to the concrete floor base or slabs in the manner prescribed by the Architect.

DAMPPROOFING COURSE—First—A Tar-Rok dampproofing course shall be laid directly on the concrete floor base or slab to a thickness sufficient to bring it flush with the top edge of the sleepers after leveling with a straightedge.

Second—The dampproofing course shall consist of fine dry sand, thoroughly mixed with Barrett Sub-Floor Tar No. 7 in the proportion of not less than twenty-five (25) nor more than thirty (30) gallons

of Tar to each cubic yard of sand. The sand shall be thoroughly dried before mixing; and both sand and Sub-Floor Tar shall be heated sufficiently to permit their mixing freely. Neither the sand nor the Tar shall be more than two hundred and twenty-five (225) degrees Fahrenheit when mixed together. If a thick white smoke arises from the mixture indicating that it is overheated, five (5) gallons more of the Tar shall be added to each cubic yard of sand.

Third—This mixture shall then be spread evenly to a thickness one-quarter ($\frac{1}{4}$) to one-half ($\frac{1}{2}$) inch higher than the top level of the wood sleepers so that it will compact to a dampproofing layer exactly flush with the tops of the sleepers.

Fourth—The wood floor base or the finished cement floor shall then be laid directly on the dampproofing course and the flooring operation completed as prescribed by the Architect.

SPECIFICATION FOR HYDRONON METHOD

CONCRETE FLOOR BASE—First—The concrete floor base shall be dry and leveled off to the proper grade.

Second—Concrete shall be allowed to set for at least three (3) days before the dampproof coating is applied. Where high, early strength cements are used for floors which are to be loaded within twenty-four (24) to forty-eight (48) hours, the dampproof coating may be applied after the concrete has set for at least twenty-four (24) hours.

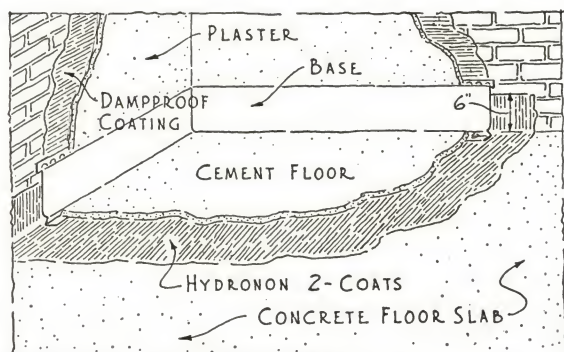
DAMPPROOFING—First—All floors shall be dampproofed by the application of two (2) coats of Barrett Hydronon to the concrete floor base; and the finished cement floor or wood sub-floor laid therein.

Second—The Hydronon shall be applied by brush in two (2) thor-

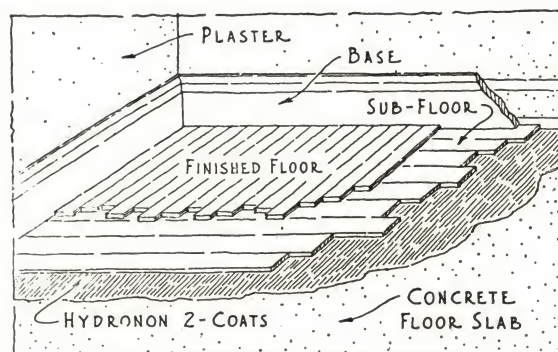
ough and even coats directly over the concrete floor base until the entire surface presents a uniform black appearance. The second coat shall be brushed at right angles to the first coat so as to insure thorough coverage of the entire surface with a continuous, impervious film without breaks. Both coats shall be carried up on the surrounding walls, columns, etc., for a distance of at least six (6) inches.

Third—Twenty-four (24) hours shall elapse between the application of the first and second coats.

Fourth—Within twelve (12) hours after the application of the final coat of Hydronon, the finished cement floor or the wood sub-floor shall be laid as prescribed by the Architect.



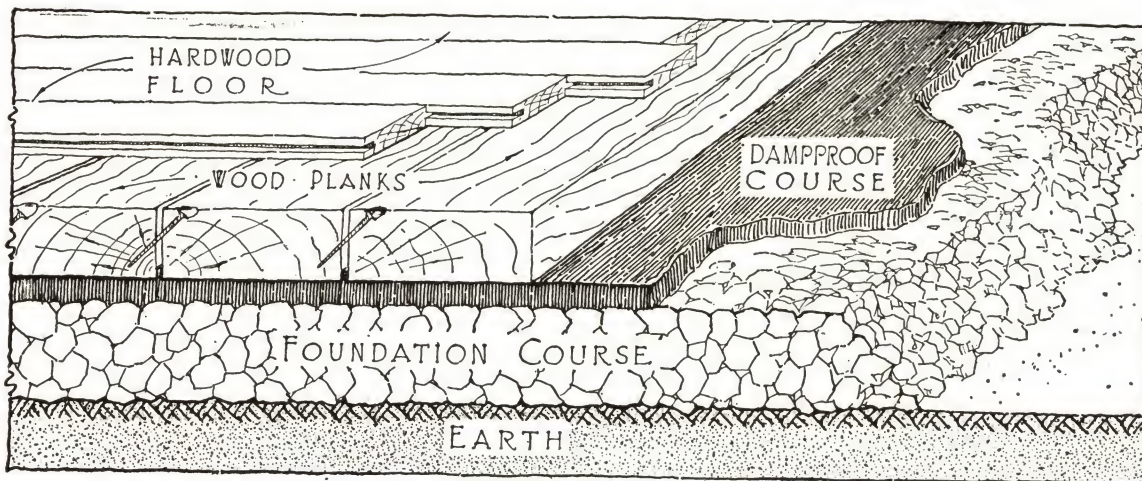
**HYDRONON METHOD
FOR CEMENT FLOORS**



**HYDRONON METHOD
FOR WOOD FLOORS**

BARRETT DAMPPROOFING SYSTEM

DAMPPROOFING FOR USE UNDER WOOD FLOORS OVER EARTH OR OVER CONCRETE BASE. Barrett Tar-Rok Method.



APPLICATION OVER EARTH

SPECIFICATION FOR APPLICATION OVER EARTH

GRADING—The general contractor for the building shall level off the earth to proper grade to receive the Tar-Rok, and if any filling is necessary it shall be properly puddled and rammed.

FOUNDATION COURSE—The foundation course shall consist of four (4) inch thickness of screened gravel or crushed stone, not any of which shall exceed two and one-half ($2\frac{1}{2}$) inches in longest dimension or be less than one-quarter ($\frac{1}{4}$) inch in size, mixed with sufficient Barrett Sub-Floor Tar No. 5 (as specified) so that it will compact under a roller after being spread evenly in place. It shall then be rolled until the stones do not creep under the roller. The Tar for this course may be heated to not more than two hundred (200) degrees Fahrenheit, and in cold weather the stone shall be slightly warmed if necessary, so that the Tar will mix with the stone and the stone spread evenly. The roller used for this work shall weigh not less than three hundred (300) pounds to each foot in length. Sub-Floor Tar used in foundation course shall be approximately (See Note No. 1):

Six (6) gallons for each cubic yard of two and one-half ($2\frac{1}{2}$) inches to one (1) inch crushed stone;

Nine (9) gallons for each cubic yard of two and one-half ($2\frac{1}{2}$) inches to one-quarter ($\frac{1}{4}$) inch crushed stone;

Seven (7) gallons for each cubic yard of coarse-screened gravel;

Ten (10) gallons for each cubic yard of fine-screened gravel.

Note No. 1—Only sufficient Tar should be used so that the stone or gravel will properly compact and provide a suitable surface for spreading the dampproof course.

DAMPPROOF COURSE—The dampproof course shall consist of a fine sand and thoroughly mixed with Barrett Sub-Floor Tar No. 7 in the proportion of not less than twenty-five (25) nor more than thirty (30) gallons of Tar to each cubic yard of sand. The sand shall be thoroughly dry before mixing, and both sand and Tar shall be heated sufficiently to make them mix freely, but neither sand nor Tar shall be hotter than two hundred and twenty-five (225) degrees Fahrenheit when being mixed together. If a thick, white smoke arises from the mixture, indicating it is overheated, five (5) gallons more Tar to each yard of sand shall be required. This mixture shall be spread evenly one and one-quarter ($1\frac{1}{4}$) to one and one-half ($1\frac{1}{2}$) inches thick (so it will compact to one (1) inch) over the foundation, leveled with straight-edge, and followed closely with plank.

The plank shall be laid on this soft mixture, and bedded on it by hammering until the proper stability is obtained and the plank brought to a proper level and toe-nailed. If after hammering, any plank is below the proper level, the plank shall be taken up and more of the mixture spread on. (The plank and finished flooring shall be furnished and laid by other contractors.)

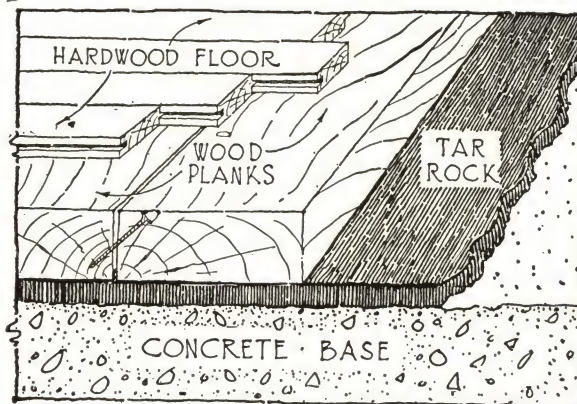
SPECIFICATION FOR APPLICATION OVER CONCRETE

GRADING—The general contractor for the building shall level off the concrete to proper grade to receive the Tar-Rok Dampproof course.

DAMPPROOF COURSE—The dampproof course shall consist of a fine sand thoroughly mixed with Barrett Sub-Floor Tar No. 7 in the proportion of not less than twenty-five (25) nor more than thirty (30) gallons of Tar to each cubic yard of sand. The sand shall be thoroughly dry before mixing, and both sand and Tar shall be heated sufficiently to make them mix freely, but neither sand nor Tar shall be hotter than two hundred and twenty-five (225) degrees Fahrenheit when being mixed together. If a thick, white smoke arises from the mixture, indicating it is overheated, five (5) gallons more Tar to each yard of sand shall be required. This mixture shall be spread evenly one and one-quarter ($1\frac{1}{4}$) inches to one and one-half ($1\frac{1}{2}$) inches thick (so it will compact to one (1) inch) over the foundation, leveled with a straight-edge, and followed closely with dry, well-seasoned plank.

The plank shall be laid on this soft mixture, and bedded on it by hammering until the proper stability is obtained and the plank brought to a proper level and toe-nailed. If after hammering, any plank is below the proper level, the plank shall be taken up and

more of the mixture spread on. (The plank and finished flooring shall be furnished and laid by other contractors.)

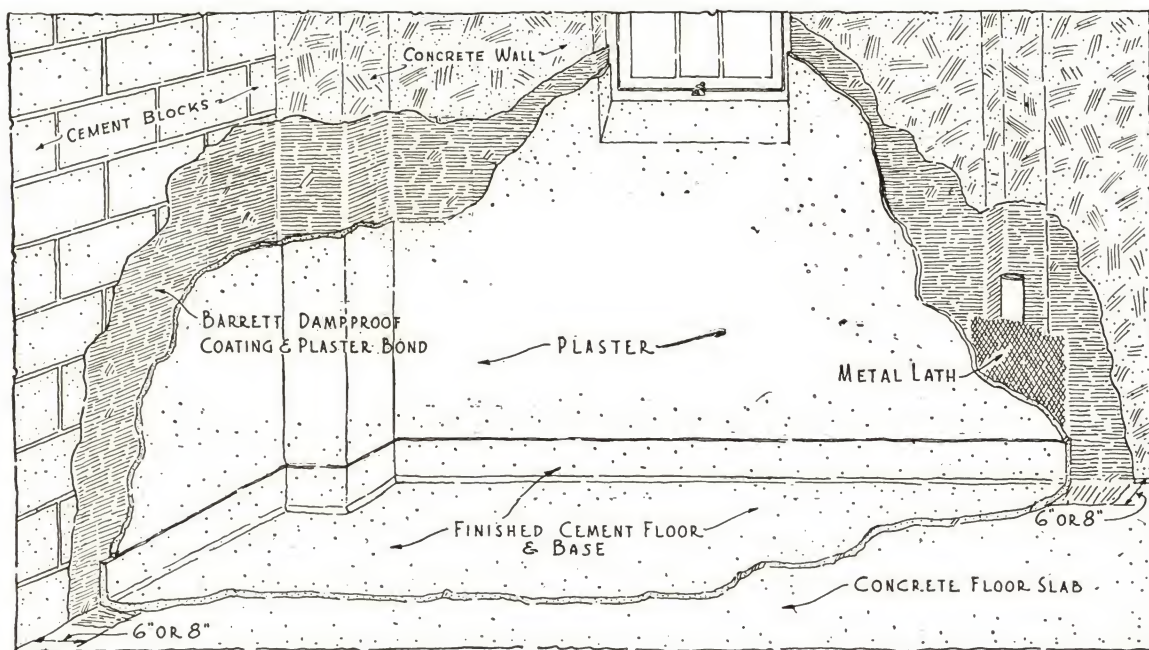


APPLICATION OVER CONCRETE

DAMPPROOF PLASTER BONDS FOR BASEMENTS.

Barrett

SINCE
1854



Note—The materials and methods referred to here provide for remedial treatment of damp basements and for a plaster bonding agent where plaster finish is desired. Where water seepage is involved, indicating the presence of water under pressure, outside waterproofing treatment, as referred to on pages 48 and 49, is recommended.

SPECIFICATION

Masonry—All holes and voids in the wall surfaces to be damp-proofed shall be carefully filled with Portland Cement Mortar and all joints struck flush. The walls shall be thoroughly dry and free from oil, grease, excess cement mortar or other foreign matter that might interfere with the bonding and penetrating properties of the dampproof coating.

Application of Dampproofing—The interior surfaces of all exterior walls, including reveals of doors and windows, column coverings and pipe chases, shall be dampproofed with two thorough applications of Barrett Dampproof Coating and Plaster Bond (No. 10 Liquid, No. 20 Semi-Mastic) or one trowel coat of No. 30 Plastic.

No. 10 Liquid shall be applied by brush or by compressed air spray. No. 20 Semi-Mastic shall be applied by heavy brush, mop or squeegee. No. 30 Plastic shall be applied by trowel to an average thickness of one-sixteenth ($\frac{1}{16}$) inch.

The coating shall be applied thoroughly and evenly until the surface presents a uniform black appearance, care being taken to completely coat all joints, crevices, cut-outs, wall chases and recesses, so as to form a continuous impervious film without holidays, pinholes or brown spots.

The dampproofing shall be applied before any pipes or metal work are installed and shall completely cover the inside surfaces of all walls, as above being carried out six (6) to eight (8) inches on rough floor slabs.

Plastering—The rough or scratch coat of wall plaster shall be applied directly to the dampproofing, but not less than twenty-four (24) hours nor more than seven (7) days after the latter has been applied.

Note—Do not use Barrett Dampproof Coatings on ceilings. Where these materials are to be used in conjunction with stucco or Portland Cement Mortar wall finishes, special application instructions shall be obtained either from the Architect or from THE BARRETT COMPANY.



Above: Finished Basement

Left: Plastic Method



Right: Paint Method

BARRETT DAMPPROOFING SYSTEM

COAL TAR EMULSION As Dampproofing and Curing Compound for Concrete

BARRETT DAMPPROOFING SYSTEM
BARRETT DAMPPROOFING SYSTEM



Small Hand Pump Used for Spraying



Spray Coat Being Applied



Finished Dampproofing Job at Oswego Blvd. Grade Crossing, New York Central Railroad, Syracuse, N. Y.

Greater Ultimate Strength for Masonry

A problem which confronts the builder of concrete construction is adequate curing. An agent is needed that will retard the evaporation of water and permit proper hydration of cement, thus providing conditions favorable to a minimum of shrinkage, internal stresses, surface cracking, crazing or disintegration of properly proportioned concrete.

COAL TAR EMULSION

Such an agent is Barrett Coal Tar Emulsion. Barrett Coal Tar Emulsion consists, essentially, of a soft coal tar pitch, minutely dispersed and suspended in water. The water content is used to reduce the pitch to a consistency suitable for application. After application, the water separates, leaving a uniform coating of pitch. This protective coating of **coal tar pitch** represents **plus** value and makes Barrett Coal Tar Emulsion unique among curing emulsions.

Coal tar pitch has proved itself to be one of nature's greatest waterproofing agents, and its scientific adaptation as an emulsion for curing of concrete masonry represents a genuine advancement in the field of heavy construction.

Barrett Coal Tar Emulsion, applied after the initial set, adheres firmly to damp concrete surfaces, in such a way as to seal all chinks and pores, thus preventing the concrete from drying too rapidly and promoting greater ultimate strength to the masonry mass.

Damp-proofing

In addition, Barrett Coal Tar Emulsion, after its function of curing is completed, serves as a damp-proof coating which resists the entrance of disintegrating agents. This dual function of Barrett Coal Tar Emulsion makes it exceptionally suited for use on retaining walls, highway bridges, abutments, grade crossing elimination projects, etc.

APPLICATION SPECIFICATIONS

Surfaces upon which the Coal Tar Emulsion is to be applied shall be free from dirt, dust or other loose particles. Oils or grease, when present, shall be removed by proper solvents and the surface washed with clean water. Old walls should be scrubbed with a wire brush and all scale, chinks, etc., removed. Existing cracks shall be properly repaired and the entire surface made smooth, before the Coal Tar Emulsion is applied.

First—A uniform coat of Coal Tar Emulsion shall be applied either by means of spray, hard bristle brush, or mop.

Second—Each coat shall be allowed to dry before application of the succeeding coat.

Third—The Coal Tar Emulsion shall be applied in not less than two (2) coats, the first coat to be applied at the rate of one and one-half (1½) to two (2) gallons per square, and the second coat at the rate of approximately two (2) gallons per square, so that a total of approximately four (4) gallons per square, for two (2) coats, shall be applied.

Notes—No. 1—When used on concrete, the Coal Tar Emulsion may be applied immediately after the forms have been removed and to a damp masonry surface.

No. 2—The Coal Tar Emulsion shall not be applied to frozen surfaces nor at temperatures below forty-five (45) deg. Fahrenheit and sufficient time should be allowed for the Emulsion to set before temperature drops below forty-five (45) deg. Fahrenheit.

No. 3—The Coal Tar Emulsion shall be used as received and shall be thoroughly stirred before being applied. If necessary to thin the Emulsion, this shall be done by the addition of water only.

THE BARRETT APPROVED ROOFER

When you study the outstanding acceptance and performance of Barrett Roofs you must ultimately come to the conclusion that Barrett's success has been based on a well-known axiom of the construction industry—that good roof service depends on the use of the proper materials . . . applied to a proved standard . . . by competent workmen.

The materials that go into Barrett Roofs are the finest that can be made, but this is to no avail if they are not properly applied.

Accordingly in its earliest days, Barrett formulated certain exacting standards for the application of its roofs. These standards are now known as the "Barrett Specification Roof."

The next step was to build a roofing organization that could be depended upon to apply Barrett materials honestly and with the greatest possible skill. The extent to which it succeeded in this undertaking is represented by the Barrett Approved Roofer Organization.

Barrett is justifiably proud of its Approved Roofers. The building industry knows no finer or more experienced group of men. They represent the utmost in ability and reliability. Their employment is recommended . . . on new work, repair or maintenance . . . for complete and satisfactory results.



THE Barrett Company manufactures, in addition to the Built-Up Roofing and Waterproofing Materials mentioned in this manual, an extensive line of prepared roofing products, such as mineral-surfaced asphalt shingles, roll roofings, sheathings, building papers, rock wool insulation, roof preservatives and repair materials, protective paints, wood preservatives, etc., constituting a comprehensive service for the building industry. Particulars concerning any materials in these classifications will be furnished upon request.



Our cover illustration is downtown Philadelphia with the historic City Hall in left foreground. As in most large cities in the United States and Canada, Barrett roofed buildings are predominant in Philadelphia.